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ACTUARIAL REPORT

ON THE

CANADA STUDENT LOANS PROGRAM

AS AT 31 JULY 2004

Office of the Superintendent of Financial Institutions Canada

Bureau du surintendant des institutions financières Canada

Office of the Chief Actuary

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Canada

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1 June 2005

The Honourable Belinda Stronach, P.C., M.P.
Minister of Human Resources and Skills Development
Gatineau, Canada

The Honourable Ralph Goodale, P.C., M.P.
Minister of Finance
Ottawa, Canada

Dear Ministers:

Pursuant to a request from the Assistant Deputy Minister, Human Resources and Skills Development, I am pleased to submit the fourth actuarial report as at 31 July 2004 on the Canada Student Loans Program established under the *Canada Student Loans Act* and the *Canada Student Financial Assistance Act*.

Yours sincerely,

Jean-Claude Ménard

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

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I. Executive Summary

Effective 1 August 2000, the Government redesigned the delivery of the Canada Student Loans Program (CSLP) from one delivered by chartered banks to one directly financed by the Government. As part of this redesign, the Office of the Chief Actuary was given the mandate to conduct an actuarial review to provide a precise assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review.

A. Purpose of the Report

This is the fourth actuarial report on the CSLP established under the *Canada Student Loans Act* and the *Canada Student Financial Assistance Act*. It presents the results of an actuarial review of the CSLP as at 31 July 2004 and includes projections of future costs of the Program through loan year 2028-29. An actuarial review of the CSLP is planned annually to provide an evaluation of the Program's overall financial costs and to increase the level of information provided to the Minister of Human Resources and Skills Development, the Minister of Finance, Parliament and the public.

In accordance with accepted actuarial practice, the main purpose of this actuarial report is to show estimates of:

- the number of students in the CSLP and amount of new loans issued;
- projections of the portfolio of loans in-study, loans in repayment and Program cost elements by type of financial arrangement or regime. Also included are projections of the provisions and allowances under the new regime in effect since August 2000; and
- projections of the net cost of the new regime as well as the remaining net cost for the pre-2000 regimes.

B. Scope of the Report

This valuation report is based on the Program provisions and proposed amendments, as described in Appendices 1 and 2. After a short discussion of the best-estimate assumptions in section A of the Main Report, section B presents projections of new loans issued, the number of students eligible to receive a loan and the average amount of new loans issued. Section C includes projections of the portfolio by type of regime. Section D contains projections for the operation of this Program, such as revenues and expenses for all three regimes. These are followed by a conclusion of the actuarial review and the actuarial opinion regarding this review.

The various appendices provide supplemental information on Program provisions, a description of data, assumptions and methods employed and the sensitivity tests conducted.

C. Main Findings

The results in this report present an overview of the Government's cost of being involved in the Direct Loan Regime of the CSLP. The following summarizes the main findings of the report.

- Although the number of students enrolled full-time in a post-secondary institution decreases over the projection period, the number of students receiving a CSLP loan in a year increases from 343,000 in 2003-04 to 438,000 in 2028-29. This represents an increase in the loan uptake rate of students in post-secondary institutions from 41% to 61%.
- The growth rate of new loans issued averages 2.3% per year during the projection period. It is composed of an average annual increase of 1.0% in the number of students in the CSLP and a 1.3% increase in the average loan size. There is a significant increase in the average loan size in loan year 2005-06 due to increasing the loan limit from $165 to $210. After that, the growth rate of the average loan size is slowed due to the loan limit being fixed at $210.
- The amount of new loans issued increases from $1.6 billion in loan year 2003-04 to $1.9 billion in 2005-06 when the loan limit is increased to $210 per week. It continues to increase during the projection period and reaches $2.9 billion in 2028-29.
- The portfolio of student loans increases from $11.0 billion in 2003-04 to $21.7 billion by 2028-29. In constant 2004 dollars, the portfolio is projected to increase slightly during the same period from $11.0 billion to $11.8 billion. Moreover, by July 2021, the portfolio consists entirely of loans issued in the Direct Loan Regime.
- The amount of loans which were in default on 31 July 2004 is $437 million. The provision rate for bad debt – principal is increased due to the higher default rate experienced. A one time adjustment of $207 million to the allowance for bad debt – principal is made as at 31 July 2004 for all Direct loans issued prior to that date.
- The total net cost, which is defined as the difference between the expenses and the revenues of the Government's involvement in the CSLP, is expected to grow from $924 million in 2003-04 to $1.4 billion in 2028-29. This represents an average annual increase in cost to the Government of 1.6%. The cost of the Government's involvement, in constant 2004 dollars, is expected to decrease from $924 million to $751 million. This represents an average annual decrease of 0.8%.
- The proportion of eligible students at the loan limit is 51% in 2003-04. This proportion drops to 34% in 2005-06 when the loan limit is increased to $210 per week, but it then increases over the next 23 years to 77% in 2028-29. This demonstrates that a further increase to the loan limit would have a significant impact on the long-term cost of the Program.
- The loan limit is increased by $45 (from $165 to $210) in loan year 2005-06 and is maintained at that level thereafter. As a sensitivity test, the new limit is indexed to inflation and the results of the test are included in Appendix 5 and are summarized below:
  - an additional $101 million (5% increase) of new loans is issued in 2010-11 due to the indexation of the limit and an additional $1,378 million (47% increase) in 2028-29; and
  - the portfolio reaches $29.2 billion instead of the expected $21.7 billion in loan year 2028-29 and the total net cost for the Government's involvement in the CSLP increases by $383 million (28% increase) in loan year 2028-29.

II. Main Report

The Canada Student Loans Program has been in effect since 1964 and provides Canadians with financial assistance to pursue a post-secondary education. Historically, two successive acts were established to permit the Minister to provide loans to eligible students under the Program. The *Canada Student Loans Act* applies to loan years preceding August 1995. The *Canada Student Financial Assistance Act* replaced the previous act for loan years after July 1995.

On 1 August 2000, the Government redesigned the delivery of the Program to disburse loans directly to students. The Office of the Chief Actuary was given the mandate to provide an assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review.

Section A of the report provides a discussion of assumptions that reflect our best judgement; these assumptions are referred to in this report as the "best-estimate" assumptions. They are determined by putting more emphasis on elements affecting the growth of new loans issued.

The projection of loans issued to eligible students for each loan year is presented in section B. This includes a projection of the student population (ages 18 to 34) in order to determine the future number of students enrolled in post-secondary education and eligible to qualify for a loan under the CSLP. A long-term demographic and economic context of the aging of the population and anticipated labour shortage serve as a basis for the examination of key factors that affect eligibility. Such factors include the evolution of the projected student population, the participation of youth in the labour force, the enrolment rate in post-secondary education, and the elimination of Grade 13 in Ontario.

The projection of the portfolio of loans for each regime is provided in section C and the forecast of the net cost of the CSLP is presented in section D. For the Government, there are higher public debt charges following the implementation of the new Direct Loan arrangement. The costs related to Direct loans include the interest subsidy on in-study loans, interest relief, provisions for debt reduction and bad debt (principal and interest), Canada Study Grants, alternative payments, loans forgiven, recovery costs and administration expenses. The costs are reduced by an estimation of the net interest revenues coming from students' interest payments, interest relief payments, and interest accrued on impaired loans.

The actuarial estimates in this report are based on the current and proposed provisions of the Program as described in Appendices 1 and 2. The other appendices contain a more detailed description of the assumptions, the methodology, and sensitivity tests and results for changes in assumptions and projections, such as changes in the loan ceiling, interest rates and net default rates.

A. Best-estimate Assumptions

Several economic and demographic assumptions are needed to determine future long-term costs of the CSLP. The projections included in this report cover a period of 25 years and the assumptions are determined by putting as much emphasis on historical trends as on short-term experience. These assumptions reflect our best judgement and are referred to as the "best-estimate" assumptions. Some of the assumptions are based on those used by the Office of the Chief Actuary for the actuarial report on the Canada Pension Plan (CPP), adjusted to reflect loan year periods and current economic and demographic experience.

The assumptions were chosen to form a coherent whole, taking into account certain interrelationships among them. The following sections present the assumptions used as well as their future evolution.

1. Demographic Assumptions

The demographic projections start with the Canadian and Québec populations on 1 July 2003, to which are applied future fertility, mortality and migration assumptions. The population of Canada is adjusted to exclude the non-participating province of Québec and territories of the Northwest Territories and Nunavut. The CPP population projections are essential in determining the future number of students enrolled in and pursuing a post-secondary education.

2. Economic Assumptions

The main economic assumptions related to the CSLP are the evolution of the labour force, inflation, tuition fees, wage increases, as well as the cost of borrowing for both students and the Government.

a) Evolution of the Labour Force

The "baby-boom" generation has and continues to exert a major influence on various aspects of society. It represents a large cohort born between the mid-1940s and the mid-1960s. This generation has exerted the strongest single influence on Canadian demographics over the last several decades. The aging of this generation will have significant influences over the next 25 years, such as slowing down the natural population growth and changing the composition of the labour force.

The entry of the "baby-boom" generation into the labour market created an abundance of workers, which has influenced the school-to-work transition over the last 20 years. In the 1990s, youths aged 15 to 24 were more likely to be in school than were youths of previous decades. The poor labour market conditions also meant they were less likely to find work.

During the last decade, poor labour market conditions have caused the school-to-work transition period to increase. Until recently, it was difficult for a great number of youths to find work. One of the key elements underlying the best-estimate economic assumptions relates to the expected labour shortage. This shortage will result from the aging of the population, the retirement of the "baby-boom" generation and the impact of these on the labour force growth and distribution.

Starting in 2011, a decline in the labour force growth rate for the population aged 18 to 34 will create more working opportunities and should reduce the school-to-work transition period for this group. The proportion of individuals aged 18 to 34 participating in the labour force is set to increase from 80.7% in loan year 2003-04 to 83.5% in 2028-29. Therefore, youths will join the labour market sooner, thus reducing the proportion of the population inclined to remain within the educational system.

b) Inflation, Tuition Fees and Wage Increases

The desire of the Bank of Canada and the Federal Government to keep inflation between 1% and 3% suggests that the rate of inflation will be weak in the coming years. Hence, the annual inflation rate is assumed to be 1.7% in 2003-04, and 2.0% in 2004-05 through 2007-08. From 2008-09, the rate is then uniformly increased to its ultimate level of 2.7% in 2015-16. This rate of inflation is maintained for the remainder of the projection period.

Student expenses are used in needs assessment to determine the maximum loan amount that can be issued. These expenses include food, shelter, transportation and clothing, all of which tend to vary with consumer prices. As a result, the future anticipated rate of inflation is used to project these expenses.

Tuition fees are treated separately from other expenses since their evolution is, in part, a result of government policies. Based on stated intentions in provincial budgets and actual tuition increases as reported in news releases, the tuition increase is estimated at 4.3% in loan year 2004-05, 1.0% in loan year 2005-06 and 2.5% in loan years 2006-07 and 2007-08. In the past, government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Similar budgetary pressures are expected in the future due to the aging of population. Thus, tuition fees are indexed at the rate of inflation plus 3.0% for the long-term, in accordance with past experience.

Future student resources, including wages and parental contributions, are influenced by the increase of average annual earnings. The increase in earnings is related to changes in the manpower supply in the labour force. Therefore, an increase in productivity and a decline in the labour force growth rate, especially after 2011-12, are assumed to force a relatively higher real wage growth. In 2004-05, the real growth in average earnings is estimated to be -0.4%. From 2005-06, the real growth in average earnings increases gradually from 0.4% in 2005-06, reaching 1.2% by 2012-13. It is maintained at that level for the rest of the projection period.

c) Cost of Borrowing

Since August 2000, students are indebted to the Government and, as a result, the Government bears the interest risk associated with the cost of borrowing for the entire duration of the loans. The loan's duration is a combination of two periods; first, a student is in school and receives an interest subsidy for an average of three years, after which time the student enters a period of repayment for the next ten years. The historical 10-year Government of Canada bond yield net of inflation is used as a benchmark to calculate the real cost of borrowing for the Government. The real cost is estimated at 2.3% in loan year 2004-05 and then increases gradually, reaching 2.7% in 2015-16. The rate remains at this level for the remainder of the projection period. The Government cost of borrowing consists of the real government cost of borrowing and the rate of inflation as summarized in Table 1.

Table 1 Borrowing Costs

Loan Year	Inflation (%)	Real Government Cost of Borrowing (%)	Government Cost of Borrowing (%)	Real Prime Rate (%)	Student Cost of Borrowing (%)
	(1)	(2)	(1) + (2)	(3)	(1) + (3) + 250 bps
2004-05	2.0	2.3	4.3	2.2	6.7
2005-06	2.0	2.2	4.2	2.2	6.7
2006-07	2.0	2.3	4.3	2.3	6.8
2007-08	2.0	2.3	4.3	2.5	7.0
2008-09	2.1	2.4	4.4	2.6	7.1
2009-10	2.2	2.4	4.6	2.6	7.3
2010-11	2.3	2.5	4.7	2.7	7.4
2011-12	2.4	2.5	4.9	2.7	7.6
2012-13	2.5	2.6	5.0	2.8	7.7
2013-14	2.6	2.6	5.2	2.8	7.9
2014-15	2.7	2.7	5.3	2.9	8.0
2015-16+	2.7	2.7	5.4	2.9	8.1

The real prime rate is 2.2% for 2004-05 and is expected to reach an ultimate rate of 2.9% in 2015-16. The student cost of borrowing, used to calculate the interest revenues and the cost of interest relief, is determined by adding the inflation rate to the real prime rate, as well as 250 basis points. The student cost of borrowing is presented in the last column of Table 1.

3. Provision Assumptions

As of August 2000, the CSLP is directly delivered and financed by the Government. Three provisions are established to cover future costs: bad debt – principal, bad debt – interest and debt reduction in repayment (DRR).

A larger than expected amount of defaulted loans occurred in loan years 2002-03 and 2003-04. This situation persisted in the first months of loan year 2004-05. As a result, the provision rate for bad debt – principal increases from 11.3% in the last report to 14.6%. It is assumed that this rate will remain constant in the future. A one time adjustment of $207 million is made to the allowance for bad debt – principal as at 31 July 2004 for all Direct loans issued prior to that date.

The allowance for bad debt – interest uses the same methodology introduced in last year's report and is based on the account's recoverable status and its age since impairment or default. The interest accrued on impaired loans is considered as a revenue until the loan reaches the status "non-recoverable", in which case it is written-off, generally during the following year. To lessen the effect of changing this revenue to a loss, an allowance is created based on outstanding interest at the end of each year. The percentage of the allowance changes according to the number of years since impairment and is based on a distribution of recovery. The total allowance calculated at the end of a year less the net total allowance at the end of the previous year (i.e. the allowance as at the end of last year less the amount written-off during that year) is charged as a provision for bad debt – interest. The provision rates for the allowance for bad debt – interest are the same as in the last report and are shown in Table 2.

The DRR provision rate was set at 0.7% in the previous reports. This rate is unchanged and is assumed to remain constant in the future. However, the DRR payments for the Guaranteed and Risk-Shared Regimes in loan year 2004-05 have increased significantly from the previous loan year. This situation will be closely monitored as more experience data becomes available.

Table 2 Provision and Allowance Assumptions

Type of Provision	Assumptions	
		(%)
On new loans issued		
Bad debt – principal		14.6
Debt reduction in repayment		0.7
Total		**15.3**
On outstanding interest on impaired loans	**Number of Years Since Impairment**	(%)
Allowance for bad debt – interest	Less than 1	20.0
	Between 1 and 2	40.8
	Between 2 and 3	56.0
	Between 3 and 4	70.4
	Between 4 and 5	80.0
	Between 5 and 6	85.6
	Between 6 and 7	88.8
	Between 7 and 8	91.2
	Between 8 and 9	93.6
	Between 9 and 10	95.2
	Between 10 and 11	96.0
	Between 11 and 12	96.8
	Between 12 and 13	97.6
	Between 13 and 14	98.4
	Between 14 and 15	99.2

Table 3 contains a summary of the best-estimate assumptions described previously.

Table 3 Best-estimate Assumptions

1. Total fertility rate for Canada	1.5 per woman in 2004 graded to 1.6 per woman in 2016
2. Mortality	1995-97 Life Tables for Canada with future improvements
3. Net migration rate	0.50% of the population to 2015 and 0.54% in 2020+
4. Youth participation rate (participating provinces/territory, ages 18-34)	80.7% (2004-05) 83.5% (2028-29)
5. Real wage differential	-0.4% (2004-05) 0.4% (2005-06) ⋮ 1.2% (2012+)
6. Inflation	2.0% (2004-05) 2.0% (2005-06) ⋮ 2.7% (2015+)
7. Tuition fee increases	4.3% (2004-05) 1.0% (2005-06) 2.5% (2006-07) 2.5% (2007-08) ⋮ CPI + 3.0% (2012+)
8. Government cost of borrowing	4.3% (2004-05) ⋮ 5.4% (2015+)
9. Student borrowing cost	6.7% (2004-05) ⋮ 8.1% (2015+)
10. Bad debt provision – principal	14.6% (2004+ and retroactive adjustment for 2000-01 to 2003-04)
11. Allowance for bad debt – interest	20.0% (Interest on loans in default for less than a year) ⋮ 99.2% (Interest on loans in default for 14 to 15 years)
12. DRR provision	0.7% (2004+)

B. Projection of Total Loans Issued

The purpose of this section is to project the amount of total loans issued by the CSLP. First, the full-time enrolment in post-secondary institutions is projected. Next, the future number of students participating in the CSLP is determined using a projection of the distribution of assessed needs for CSLP students. Finally, the previous elements are combined to project the amount of total loans issued.

1. Projection of Full-time Post-secondary Enrolment

The projection of full-time students in post-secondary institutions must first be determined, since the demand for the CSLP is linked to the number of students enrolled in post-secondary institutions. Demographics and post-secondary enrolment will have the largest impact on the progression of full-time students attending post-secondary institutions.

a) Demographic Projections

The population of Canada, less Québec and the territories of the Northwest Territories and Nunavut, in the age range 18-34, is used to project the number of students enrolled in post-secondary institutions. The projection of this population is a fairly good approximation since it originates from individuals born between 1970 and 2011, most of which are already included in the population.

In the first 12 years of the projection, children of the "baby-boom" generation, called the "echo" generation, are expected to contribute to the increase in the population for ages 18-34. The "baby-boom" generation is more numerous and, consequently, had more children than the previous generation, notwithstanding a lower fertility rate. The population aged 18-34 is expected to increase from 5,688,000 to 6,100,000 by 2015-16. In the last 13 years of the projection, the population aged 18-34 decreases to 5,832,000. Overall, as Table 4 shows, an increase of 144,000 is expected in the population aged 18-34 over the 25-year projection period.

Table 4 Population and Post-secondary Enrolment

Loan Year	Population of Canada Less Québec, NWT and Nunavut (18-34) (Thousands)	Not Participating In Labour Force (18-34) (Thousands)	Students Enrolled Full-time (Thousands)	Increase (Thousands)	Growth Rate (%)
2003-04	5,688	1,098	844	-	-
2004-05	5,725	1,102	836	-8.3	-1.0
2005-06	5,751	1,091	828	-7.6	-0.9
2006-07	5,771	1,077	817	-10.8	-1.3
2007-08	5,810	1,075	815	-2.1	-0.3
2008-09	5,864	1,086	822	7.1	0.9
2009-10	5,919	1,092	825	2.4	0.3
2010-11	5,964	1,088	820	-4.5	-0.5
2011-12	6,003	1,084	816	-4.7	-0.6
2012-13	6,038	1,082	813	-2.8	-0.3
2013-14	6,073	1,087	815	2.5	0.3
2014-15	6,097	1,088	816	0.3	0.0
2015-16	6,100	1,077	805	-11.1	-1.4
2016-17	6,094	1,062	792	-12.7	-1.6
2017-18	6,079	1,050	781	-11.0	-1.4
2018-19	6,058	1,040	773	-8.1	-1.0
2019-20	6,028	1,023	759	-14.3	-1.8
2020-21	5,998	1,005	742	-16.4	-2.2
2021-22	5,969	994	732	-10.3	-1.4
2022-23	5,949	987	726	-6.0	-0.8
2023-24	5,934	982	722	-4.2	-0.6
2024-25	5,912	976	717	-4.2	-0.6
2025-26	5,884	969	714	-3.9	-0.5
2026-27	5,860	965	713	-0.9	-0.1
2027-28	5,842	962	713	0.9	0.1
2028-29	5,832	961	715	1.8	0.3

b) Post-secondary Enrolment

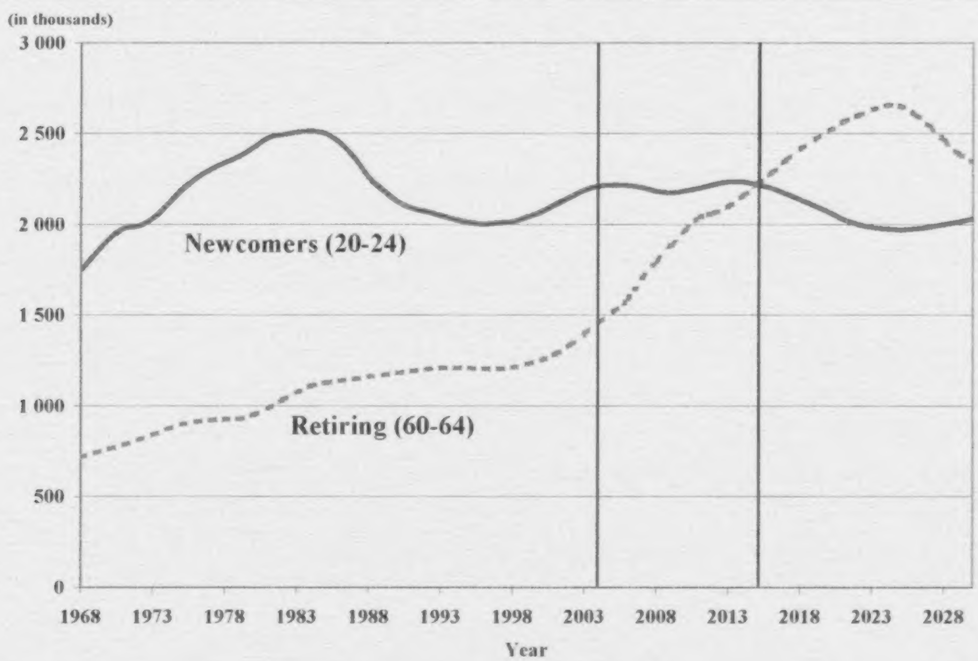
The number of students enrolled full-time in post-secondary institutions is closely linked to the evolution of the population aged 18-34 that is not participating in the labour force. Those individuals who are not participating in the labour force may be more inclined to pursue a

post-secondary education. Thus, post-secondary enrolment is considered to be a subset of the population not participating in the labour force. During times when fewer jobs are available, the school to work transition period is longer, as more individuals decide to pursue post-secondary education. However, when more jobs are available, the school to work transition period decreases because more people choose to work rather than attend a post-secondary institution.

The aging and subsequent retirement of the "baby-boomers", along with a shortage of replacement workers, caused by the low fertility rate, are expected to create strong pressure on the labour market. The generations following the "baby-boom" are smaller and thus have fewer labour force entrants to replace the retiring "baby-boomers". This will cause a labour shortage, which will increase as more of the "baby-boomers" retire. In the past, there have always been many more newcomers (ages 20-24) joining the labour force than persons retiring (ages 60-64). This will no longer be true once the "baby-boomers" begin retiring.

Chart 1 shows the evolution of the number of persons retiring and newcomers entering the labour force from 1968 onwards.

Chart 1 Evolution of Persons Retiring (60-64) and Newcomers (20-24)



Historically, the number of persons retiring or in the age range 60-64 has been very low compared to the newcomers entering the labour force (representing less than 50%). This situation is expected to change radically over the next 13 to 25 years, creating an imbalance in the labour market. More specifically, in 2015, the number of persons retiring is expected to catch up with the number of newcomers, reaching 2,219,000 persons. By 2025, the number of persons retiring (2,648,000) will surpass the number of newcomers (1,970,000) by 34%. The labour market will have to adapt since it is accustomed to having at least two newcomers for each person retiring; this ratio will decrease significantly to less than one newcomer for each person retiring. As a result, the participation rates in the labour force are assumed to increase and the school-to-work transition period will be reduced due to favourable labour market conditions and the increased availability of work.

In Table 4, the population not participating in the labour force is projected to decrease overall from 1,098,000 to 961,000 during the projection period. This overall decrease of 137,000 is due to the natural demographic evolution as well as the impending labour shortage.

The evolution of the inactive population, those aged 18-34 not participating in the labour force, is a good indicator of the evolution of the population in post-secondary institutions. Enrolment in post-secondary institutions, as well as CSLP participation, varies between age groups. The age distribution of the CSLP shows that approximately 75% of students in the CSLP are in the age range 18-24. This implies that the proportion of the inactive population enrolled in a post-secondary institution will also vary by age group. The CSLP age distribution was used to separate historical enrolment data into age ranges. A post-secondary participation factor was calculated as the ratio of the historical post-secondary enrolment to the inactive population for each age range. This post-secondary participation factor was then applied to the future inactive population in order to determine the future enrolment in post-secondary institutions.

c) Double Cohort

Ontario's provincial government phased out Grade 13 in August 2003. Several papers were written discussing the potential impact this would have on enrolment in Ontario universities. Previous actuarial reports on the CSLP projected a significant increase in the number of students enrolled full-time, as well as the number of students in the CSLP, due to the double cohort. However, now that the first year of the double cohort has passed, actual experience shows that the impact of the double cohort was much less significant than anticipated. The number of students in the CSLP in 2003-04 is 343,000, an increase of only 11,000 students from 2002-03. Possible explanations for such a small increase include students delaying the start of post-secondary education, returning to high school, or choosing not to attend a post-secondary institution at all.

2. Number of Students in the Canada Student Loans Program

To project the number of students in the CSLP, it is necessary to determine the future distribution of student need, as well as the average student need. The Department of Human Resources and Skills Development (HRSD) has provided the CSLP students' needs assessment data for the last four loan years, which was used to project the future distributions of student needs.

Not everyone enrolled in a post-secondary institution is eligible to participate in the CSLP. The needs assessment process determines whether students are eligible for a loan, and if so, the amount they are eligible to receive. A student's need is defined as the excess of expenses over resources, if positive. The resources assessed include salary, assets, and parental contributions. The expenses calculated include tuition fees, books, shelter, food, and transportation.

Table 5 Average Student Needs

Loan Year	Resources ($)	Tuition ($)	Other Expenses ($)	Total Expenses ($)	Average Student Need ($)	Average Student Need Increase ($)
	(1)	(2)	(3)	(2) + (3)	(2) + (3) – (1)	
2003-04	3,400	5,100	8,100	13,100	9,700	-
2004-05	3,500	5,300	8,200	13,500	10,000	300
2005-06	3,500	5,300	8,900	14,200	10,700	700
2006-07	3,600	5,500	9,000	14,500	10,900	200
2007-08	3,700	5,600	9,200	14,800	11,100	200
2008-09	3,800	5,800	9,400	15,100	11,300	200
2009-10	3,900	6,000	9,600	15,500	11,600	300
2010-11	4,000	6,200	9,800	16,000	12,000	400
2011-12	4,200	6,500	10,000	16,500	12,300	300
2012-13	4,300	6,900	10,200	17,100	12,800	500
2013-14	4,500	7,300	10,400	17,700	13,200	400
2014-15	4,600	7,700	10,700	18,400	13,700	500
2015-16	4,800	8,100	10,900	19,100	14,300	600
2016-17	5,000	8,600	11,200	19,800	14,800	500
2017-18	5,200	9,100	11,500	20,600	15,400	600
2018-19	5,400	9,600	11,800	21,400	16,000	600
2019-20	5,600	10,200	12,100	22,300	16,700	700
2020-21	5,800	10,700	12,400	23,200	17,300	600
2021-22	6,100	11,300	12,800	24,100	18,000	700
2022-23	6,300	12,000	13,100	25,100	18,800	800
2023-24	6,500	12,700	13,400	26,100	19,600	800
2024-25	6,800	13,400	13,800	27,200	20,400	800
2025-26	7,100	14,200	14,100	28,300	21,200	800
2026-27	7,300	15,000	14,500	29,500	22,100	900
2027-28	7,600	15,800	14,900	30,700	23,100	1,000
2028-29	7,900	16,700	15,300	32,000	24,100	1,000

Table 5 summarizes the three main elements of student needs, as well as the average student need. The values for other expenses and resources have decreased significantly compared to the last actuarial report. This is due to more precise data on students' living arrangements and improved methodology in calculating students' living costs. More details on this can be found in Appendix 4. The values in this table are consistent with the average values calculated from the needs assessment data.

Student need is increasing on average because expenses are rising faster than resources. Tuition fees are the primary source of increases in student needs and are ultimately indexed at 3.0% above inflation, while salaries are increased at a slower pace; i.e. ultimately indexed at 1.2% above inflation. Table 5 shows average tuition fees rising from $5,100 in 2003-04 to $16,700 in 2028-29. Tuition fees rise from 150% of a student's available resources to 211% in 2028-29.

Beginning in loan year 2003-04, there was a change to the CSLP in-study income exemption. Prior to 2003-04, students could earn up to $600 over the course of their study period without affecting the amount of their loan. In 2003-04, the in-study income exemption was increased to $50 per week or $1,700 over a typical 34-week period of study. That is, CSLP students are now able to earn income up to $50 per week of study without it affecting their assessed resources and therefore their assessed need, as determined by the needs assessment process. This program change has been included in the analysis of student resources for the purposes of this report.

Resources are expected to increase due to the increase in real wages; however, assessed resources remain relatively stable initially due to the increase in the income exemption.

Analysis of the needs assessment data provided by HRSD has shown that the CSLP students' needs closely follow a normal distribution. A better fit is achieved by slightly modifying the normal curve. The modifications made to the normal curve are described in Appendix 4 of this report. Using the properties of a normal distribution and the 25 years of projected needs increases, as shown in Table 5, needs curves for the next 25 years were projected.

Chart 2 CSLP Students' Projected Needs Curves

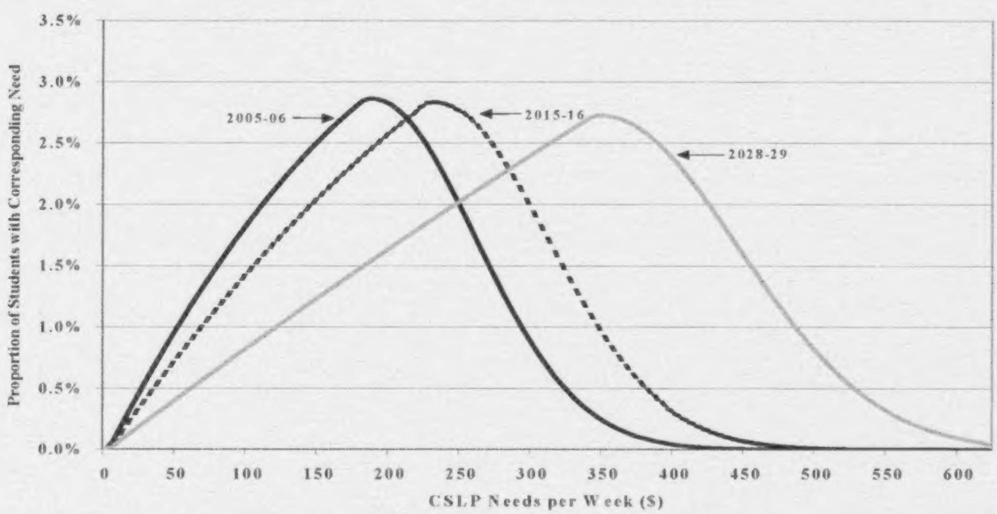


Chart 2 is a projection of the CSLP students' needs curves for three years during the twenty-five year projection period. The area under each successive needs curve grows from year to year and thus represents the increased participation in the CSLP. That is, as the area under each subsequent curve grows, the increase in the curve represents the addition of more students to the CSLP. For example, if the area under the needs curve for 2005-06 is 2% larger than the area under the needs curve for 2004-05, then the loan uptake of post-secondary students has grown by 2%. The CSLP loan uptake rate is defined as the proportion of students who are enrolled full-time in a post-secondary institution and also take a loan in the CSLP.

During the projection period, the modified normal curves become flatter as students move further to the right of the curve due to increased needs. Needs will increase if expenses are increasing faster than resources, as is assumed. The needs assessment data show that students with high needs have a very low level of resources. Thus students to the right of the peak of the needs curve have few resources and will see a large increase in their needs. Those to the left of a peak will experience an increase in need less than the average since any increase in need should be partially offset by an increase in resources. It is anticipated that as the needs of students increase, newly eligible participants will enter to the left of the peak. New participants will enter the CSLP because their previously negative need became positive or their need increased enough that it became worthwhile to take the loan. It is expected that as needs increase, participants will move towards the right of the peak.

Chart 2 shows that the proportion of participants with small loans (that is, low CSLP needs), such as less than $60 per week, decreases over the projection period. This is because the overall

participation in the CSLP continues to increase rapidly, while the number of students with small loans actually decreases slightly over time due to the large increases in need. Thus, the proportion of those with small loans will decrease over time.

Table 6 shows the evolution of loan recipients over the 25-year projection period. An increase in the loan uptake rate is expected as tuition fees and other expenses grow at a faster rate than resources. This is the main cause of the increase in loans issued over the 25-year period.

The product of the number of students enrolled full-time and the CSLP loan uptake rate, resulting from each successive needs curve, gives the number of students in the CSLP. Table 6 shows that the loan uptake rate is expected to increase from 40.6% to 61.2%, adding 95,000 students to the Program. Thus, the number of students in the Program increases from 343,000 in 2003-04 to 438,000 in 2028-29.

Table 6 Loan Recipients

Loan Year	Students Enrolled Full-time (Thousands)	Loan Uptake Rate (%)	Students in CSLP (Thousands)	Annual Increase in CSLP Students (Thousands)	Annual Increase in CSLP Students (%)
	(1)	(2)	(1) x (2)		
2003-04	844	40.6	343	-	-
2004-05	836	41.3	345	2	0.5
2005-06	828	42.2	349	4	1.3
2006-07	817	42.4	347	-2	-0.7
2007-08	815	42.7	348	1	0.3
2008-09	822	42.9	353	5	1.5
2009-10	825	43.6	359	6	1.8
2010-11	820	44.2	362	3	0.9
2011-12	816	45.0	367	4	1.2
2012-13	813	45.6	371	4	1.2
2013-14	815	46.5	379	8	2.2
2014-15	816	47.3	385	6	1.6
2015-16	805	48.1	387	1	0.4
2016-17	792	48.9	387	0	0.1
2017-18	781	49.8	389	2	0.5
2018-19	773	50.6	391	2	0.4
2019-20	759	51.5	391	0	0.0
2020-21	742	52.3	388	-2	-0.6
2021-22	732	53.2	390	1	0.3
2022-23	726	54.1	392	3	0.7
2023-24	722	55.0	397	5	1.2
2024-25	717	55.9	401	4	0.9
2025-26	714	57.1	408	7	1.7
2026-27	713	58.5	417	9	2.3
2027-28	713	59.8	427	10	2.3
2028-29	715	61.2	438	11	2.6

3. New Loans Issued

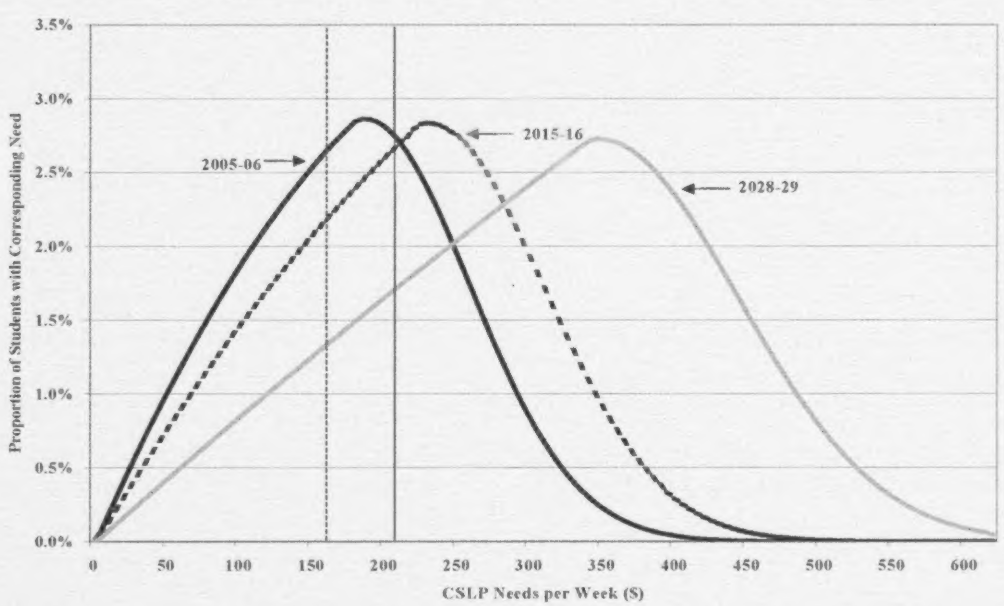
This section focuses on the determination of the amount of new loans issued in a certain loan year. The following two factors are mainly responsible for the evolution of new loans issued: student need and the percentage of students reaching the loan limit.

First, an increased student need will put growing pressure on new loans issued as more students become eligible for and take a loan, while those who were previously eligible become eligible for a larger loan. Table 5 shows that the average student need increases from $9,700 in 2003-04 to $24,100 in 2028-29. Although the increasing student need causes more students to become eligible to receive a loan, loans to newly eligible individuals are smaller in size and therefore slow the growth of the average loan size. This indirectly contributes to moderating the average loan growth over the 25-year period as an estimated 95,000 additional students will participate in the CSLP.

Secondly, in loan year 2005-06, the loan limit will be increased by $45 per week from $165 to $210. The loan limit will be held constant thereafter. There will be a large increase in loans issued at this point as students previously at the limit will be eligible for a larger loan, up to the new limit. Since the loan limit has increased, fewer students will be eligible for a loan the size of the new limit. Thus, the percentage of students at the limit will be lower than if the limit had not been increased.

In 2004-05, with a loan limit of $165 per week, the percentage of students at the limit will be 52.6%. When the loan limit is increased to $210 per week in 2005-06, the percentage of students at the limit will drop to 33.6%. In Table 7, the percentage of students at the limit increases from 33.6% in 2005-06 to 77.4% in 2028-29. These students will not have an increase in loan size despite increasing cost pressures. After 2005-06, the $210 loan limit remains the same and slows the growth of new loans issued, as students with needs that are already at or above the loan limit cannot increase the size of their loan any further.

Chart 3 CSLP Students' Needs Curves and Loan Limit



The projected needs curves in Chart 3 are the same as shown in Chart 2, except a vertical line has been added at the assessed needs of $165 and $210 per week to represent the CSLP loan limits. Anyone whose need falls to the right of this line will only receive the loan limit. Those whose need does not exceed the loan limit are eligible to receive a loan amount equal to their entire need. Chart 3 supports the results in Table 7 that the proportion of students with needs exceeding the loan limit is increasing during the projection period. The loan limit restricts the growth in new loans issued. Even though needs are increasing rapidly, the loan limit is not changing. Thus, new loans issued will not increase as quickly as CSLP students' needs.

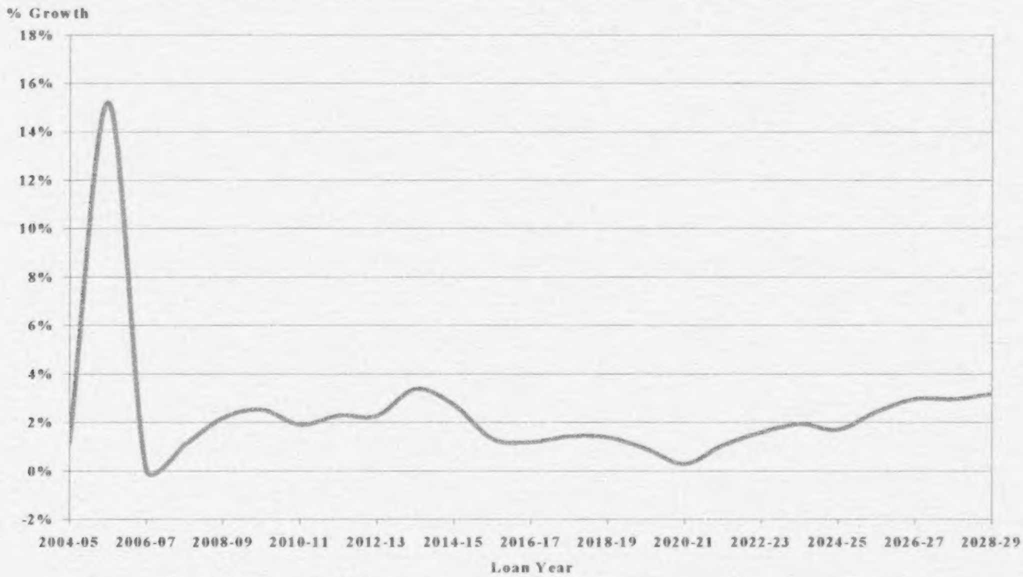
Table 7 Increase in New Loans Issued

Loan Year	Average Student Need (%)	Increase (%)	% of Students at Limit	New Loans Issued ($ million)	Increase (%)	Students in CSLP (Thousands)	Increase (%)	Average Loan Size ($)	Increase (%)
	(1)		(2)	(3)		(4)		(3) / (4)	
2003-04	9,698	0.0	51.2	1,648	-	343	-	4,804	-
2004-05	10,005	3.2	52.6	1,666	1.1	345	0.5	4,832	0.6
2005-06	10,663	6.6	33.6	1,920	15.2	349	1.3	5,497	13.8
2006-07	10,880	2.0	34.8	1,921	0.1	347	-0.7	5,539	0.8
2007-08	11,095	2.0	36.0	1,941	1.1	348	0.3	5,581	0.7
2008-09	11,342	2.2	37.2	1,984	2.2	353	1.5	5,621	0.7
2009-10	11,628	2.5	38.7	2,034	2.5	359	1.8	5,662	0.7
2010-11	11,958	2.8	40.6	2,073	1.9	362	0.9	5,719	1.0
2011-12	12,338	3.2	42.8	2,120	2.3	367	1.2	5,781	1.1
2012-13	12,772	3.5	45.0	2,168	2.3	371	1.2	5,844	1.1
2013-14	13,235	3.6	47.4	2,241	3.4	379	2.2	5,908	1.1
2014-15	13,734	3.8	49.8	2,303	2.7	385	1.6	5,974	1.1
2015-16	14,264	3.9	51.9	2,333	1.3	387	0.4	6,031	0.9
2016-17	14,822	3.9	54.4	2,361	1.2	387	0.1	6,097	1.1
2017-18	15,406	3.9	56.5	2,394	1.4	389	0.5	6,154	0.9
2018-19	16,019	4.0	58.7	2,427	1.4	391	0.4	6,212	0.9
2019-20	16,661	4.0	60.8	2,450	0.9	391	0.0	6,268	0.9
2020-21	17,335	4.0	63.0	2,457	0.3	388	-0.6	6,325	0.9
2021-22	18,042	4.1	64.8	2,483	1.1	390	0.3	6,373	0.8
2022-23	18,783	4.1	66.9	2,522	1.6	392	0.7	6,428	0.9
2023-24	19,561	4.1	68.7	2,571	1.9	397	1.2	6,473	0.7
2024-25	20,377	4.2	70.7	2,614	1.7	401	0.9	6,525	0.8
2025-26	21,234	4.2	72.4	2,678	2.4	408	1.7	6,570	0.7
2026-27	22,134	4.2	74.2	2,758	3.0	417	2.3	6,614	0.7
2027-28	23,079	4.3	75.8	2,839	3.0	427	2.3	6,655	0.6
2028-29	24,072	4.3	77.4	2,929	3.2	438	2.6	6,695	0.6

Table 7 shows the increase in new loans issued per loan year over the 25-year projection period. Overall, the total new loans issued increase from $1,648 million in 2003-04 to $2,929 million in 2028-29, resulting in an average increase of 2.3% per year. The ratio of new loans issued and the number of students in the CSLP results in the average loan size per student. The percentage increase in new loans issued is shown in Table 7 along with the percentage increase in the number of students in the CSLP. The difference between these two elements gives the approximate increase in average loan size. For example, in loan year 2010-11, new loans issued increases by 1.9%, while the number of students in the CSLP increases by 0.9%. In the same year, the average loan size increases by 1.0%, which is the approximate difference between the two elements.

Chart 4 shows the year-to-year growth of total new loans issued during the projection period. New loans issued increase by 15.2% in loan year 2005-06 due to increasing the loan limit. The growth rate of the average loan size is moderated due to the constant loan limit from 2005-06 onward. Over the 25-year projection period, the growth in the amount of new loans is, on average, 2.3% a year. This is mainly due to the large increase in the average student need ($9,700 to $24,100 as shown in Table 5), which in turn increases the number of students in the CSLP. The yearly average growth of new loans issued can be broken down into two parts: 1.0% is due to the average annual growth rate of students in the CSLP, while 1.3% is due to the average annual growth rate of the average loan size.

Chart 4 Growth Rate of New Loans Issued



New loans issued are driven by an increased number of students becoming eligible as a result of accelerated student need. The average loan size is not greatly affected since the loan limit is capped over the 25-year period. Any significant increase in the limit would have a major impact on the long-term growth rate of new loans issued.

A sensitivity test demonstrating the effect of indexing the limit to inflation is included in Appendix 5. The Federal Government announced in the 2004 Budget that the loan limit of the CSLP would be increased to $210 per week beginning in loan year 2005-06. This scenario of indexing the loan limit to inflation demonstrates that the growth rate of new loans issued is significantly higher when the loan limit is increased to better reflect the increasing student need.

C. Portfolio Projections

This section presents projections of the portfolio for all three regimes. The amounts for loans in-study represent loans issued to students still in the post-secondary educational system. Interest on loans in-study are fully subsidized by the Government for full-time students in the CSLP. The loans in repayment consist of loans consolidated by students with financial institutions (or the Government) and in repayment.

The Guaranteed and Risk-Shared Regimes apply to loans issued before August 2000. Some loans in these regimes are still outstanding since there are still students under these regimes who

are attending post-secondary institutions or have not finished repaying their loans. Impaired loans are not included in the projections of the Guaranteed and the Risk-Shared portfolios. As at July 2004, the total impaired loans coming from the Guaranteed and Risk-Shared Regimes that are owned by the Government amount to approximately $1.2 billion (principal and interest) and are subject to possible future recoveries. The Government sets up provisions in the Public Accounts for those loan guarantees and loans in default. This procedure is not shown in this report.

The projections of the portfolio for the Guaranteed and Risk-Shared Regimes are shown in Table 8. The Guaranteed Regime is gradually being phased out over the next 12 years, while loans in the Risk-Shared Regime will take an extra four years before being completely phased out.

Table 8 Guaranteed and Risk-Shared Regimes Portfolios ($ million)

	Guaranteed			Risk-Shared		
As at 31 July	Loans In-study	Loans in Repayment	Total	Loans In-study	Loans in Repayment	Total
2004	53	347	400	543	3,965	4,508
2005	39	218	257	318	3,453	3,772
2006	24	141	165	179	2,831	3,010
2007	11	97	107	93	2,190	2,283
2008	-	67	67	45	1,594	1,639
2009	-	41	41	22	1,085	1,107
2010	-	26	26	9	695	704
2011	-	16	16	4	442	446
2012	-	10	10	1	289	290
2013	-	6	6	-	183	183
2014	-	4	4	-	109	109
2015	-	2	2	-	58	58
2016	-	1	1	-	30	30
2017	-	-	-	-	14	14
2018	-	-	-	-	7	7
2019	-	-	-	-	3	3
2020	-	-	-	-	1	1
2021	-	-	-	-	-	-
2022	-	-	-	-	-	-

Under the Direct Loan Regime, according to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision on loans issued should be accounted for as a Program expense, since the loans are provided by the Government instead of by financial institutions. The purpose of this provision is to cover all future net costs and risk of loss associated with loans. As a result, the provision avoids overstatement of Program revenues by immediately recognizing the risk of loss at the time loans are issued.

The projection of the Direct Loan portfolio includes the balance of outstanding loans, the projection of impaired loans for which students have stopped making payments, allowances for bad debt (principal and interest separately) to cover the future risk of default net of recoveries from loans disbursed, and the allowance for DRR to cover the future cost of students benefiting from this program disposition.

The projection of the portfolio of the Direct Loan Regime is shown in Table 9. The projections use the consolidation, default and recovery distributions discussed in Appendix 4. In order to establish the gross default rate used for the Direct Loan Regime, the amounts of future defaulted loans are extrapolated using known defaults for the first four years of the Direct Loan Regime and the default distribution for Guaranteed loans. A Direct loan is considered impaired when it is returned to the Government, usually after 270 days without a payment. The gross default rate, set at 40.7%, is then adjusted to take into account the pre-authorized payment program which was not available for a certain period and the rebalancing of the default rate between students from public and private institutions based on long-term consolidation proportions.

After these two adjustments, the gross default rate decreases to 35.4%, which is 15.4 basic percentage points higher than the rate of 20.0% used in previous reports. The recovery rate is set at 60% and the corresponding net default rate is 14.2%. This rate is no longer adjusted downward, as was done in previous actuarial reports to account for program enhancements and the improvement of the economic environment, since the defaults experienced do not reflect those expectations. The establishment of the net default rate is described in more detail in Appendix 4.

Table 9 Direct Loan Portfolio and Allowances ($ million)

					Allowances for		
As at 31 July	Loans In-study	Loans in Repayment	Impaired Loans	Total*	Bad Debt Principal	Bad Debt Interest	DRR
2004	3,084	2,528	437	6,050	905	13	44
2005	3,290	3,411	734	7,435	1,126	32	56
2006	3,658	4,231	1,051	8,941	1,368	64	69
2007	3,871	5,062	1,363	10,296	1,590	108	79
2008	4,021	5,813	1,672	11,507	1,792	164	87
2009	4,129	6,490	1,966	12,584	1,974	232	93
2010	4,249	7,038	2,239	13,525	2,138	306	97
2011	4,360	7,515	2,481	14,356	2,281	385	101
2012	4,472	7,869	2,693	15,034	2,408	465	104
2013	4,583	8,178	2,878	15,640	2,520	543	106
2014	4,710	8,475	3,040	16,225	2,624	618	108
2015	4,841	8,743	3,182	16,766	2,719	688	111
2016	4,944	8,997	3,309	17,250	2,804	751	113
2017	5,027	9,232	3,424	17,682	2,880	804	115
2018	5,105	9,446	3,529	18,080	2,949	845	117
2019	5,181	9,645	3,626	18,452	3,013	885	118
2020	5,246	9,828	3,716	18,790	3,071	920	120
2021	5,289	10,016	3,799	19,104	3,122	950	121
2022	5,338	10,169	3,875	19,382	3,168	977	121
2023	5,403	10,306	3,944	19,653	3,213	1,002	122
2024	5,488	10,437	4,006	19,931	3,259	1,025	123
2025	5,578	10,572	4,065	20,215	3,304	1,046	124
2026	5,689	10,716	4,122	20,527	3,354	1,065	125
2027	5,827	10,877	4,180	20,884	3,409	1,083	127
2028	5,982	11,065	4,242	21,289	3,471	1,100	129
2029	6,155	11,283	4,311	21,748	3,542	1,116	131

* The aggregate amount of outstanding student loans (including impaired loans) is mandated not to exceed $15 billion under section 13 of the *Canada Student Financial Assistance Act*.

As at 31 July 2004, the outstanding Direct Loan portfolio is $6,050 million and is derived from new loans issued during loan years 2000-01 to 2003-04 ($6,280 million), plus the interest accrued during the grace period for these four years, minus repayment and write-offs in loan years 2001-02 to 2003-04. The impaired loans are part of the assets and are included in the Direct Loan portfolio projection. The portfolio increases rapidly to reach $12.6 billion within the next five years. By the end of loan year 2028-29, the portfolio reaches $21.7 billion.

Table 10 provides the details of the calculations for the projection of the impaired loans portfolio and the allowance for bad debt – principal under the Direct Loan Regime.

Table 10 Impaired Loans and Allowance for Bad Debt – Principal ($ million)

Loan Year	Impaired Loans Portfolio					Allowance for Bad Debt – Principal				
	Balance 1 August	Impaired Loans	Collected Loans	Write -offs	Balance 31 July	Allowance 1 August	New Pro-vision*	Ad-just-ment	Write -offs	Allowance 31 July
	(1)	(2)	(3)	(4)	(1 + 2) - (3 + 4)	(1)	(2)		(3)	(1 + 2) - (3)
2003-04	233	261	48	8	437	519	186	207	8	905
2004-05	437	392	73	22	734	905	243		22	1,126
2005-06	734	466	112	38	1,051	1,126	280		38	1,368
2006-07	1,051	519	148	59	1,363	1,368	280		59	1,590
2007-08	1,363	572	181	82	1,672	1,590	283		82	1,792
2008-09	1,672	616	215	107	1,966	1,792	290		107	1,974
2009-10	1,966	654	247	133	2,239	1,974	297		133	2,138
2010-11	2,239	680	278	159	2,481	2,138	303		159	2,281
2011-12	2,481	701	306	183	2,693	2,281	310		183	2,408
2012-13	2,693	720	331	205	2,878	2,408	317		205	2,520
2013-14	2,878	739	354	224	3,040	2,520	327		224	2,624
2014-15	3,040	760	376	241	3,182	2,624	336		241	2,719
2015-16	3,182	781	398	256	3,309	2,719	341		256	2,804
2016-17	3,309	802	419	269	3,424	2,804	345		269	2,880
2017-18	3,424	822	436	280	3,529	2,880	350		280	2,949
2018-19	3,529	838	450	290	3,626	2,949	354		290	3,013
2019-20	3,626	853	463	300	3,716	3,013	358		300	3,071
2020-21	3,716	866	475	308	3,799	3,071	359		308	3,122
2021-22	3,799	878	486	316	3,875	3,122	362		316	3,168
2022-23	3,875	888	496	323	3,944	3,168	368		323	3,213
2023-24	3,944	897	504	330	4,006	3,213	375		330	3,259
2024-25	4,006	907	512	336	4,065	3,259	382		336	3,304
2025-26	4,065	919	520	342	4,122	3,304	391		342	3,354
2026-27	4,122	933	528	347	4,180	3,354	403		347	3,409
2027-28	4,180	950	536	352	4,242	3,409	415		352	3,471
2028-29	4,242	971	545	357	4,311	3,471	428		357	3,542

* The provision for new loans issued accrues on a loan year basis (Public Accounts provision accrues on a fiscal year basis).

There has been a significant amount of impaired loans during the first four loan years of the Direct Loan Regime. As a result, the net default rate and the provision rate for bad debt – principal have been increased in this report. The provision rate for bad debt – principal is set at 14.6%. The rise in the provision rate results in an adjustment to the allowance of $207 million. This adjustment is accounted for as at 31 July 2004. Effectively, the Government will adjust this allowance by $257 million in March 2005.

HRSD has put some new measures in place in order to improve the default rate. It is expected that these measures, along with the modified pre-authorized payment form, will improve

performance. However, the impact on the net default rate is not known. Therefore, it is necessary to closely monitor these initiatives, along with any new measures that may be implemented, in the future.

In conducting an actuarial review of the CSLP, quality of data is of the utmost importance; that is, the data should be complete, accurate and appropriate for the purpose of the valuation. Although it is recognized that it is often difficult to obtain data that completely exhibits all such characteristics due to a lack of availability, the importance of obtaining the highest quality data cannot be stressed enough. In this respect, the data provided by the administration should be reviewed and analysed further, it would be particularly helpful to obtain the consolidation date.

The allowance for bad debt – principal is reduced when there is a write-off. The assumption used for write-offs is a 15-year distribution, presented in Appendix 4. This distribution, which was smoothed, corresponds to the experience of write-offs for the Guaranteed Loan Regime.

The allowance for bad debt – principal grows rapidly and reaches $3.5 billion in 2028-29. As a percentage of the total Direct Loan portfolio, the allowance evolves from 15% in 2003-04 to stabilize at approximately 16% over the long-term.

In accordance with the collection practice, interest accrues on impaired loans until the loans reach a "non-recoverable" status. A provision is set to cover the risk that such accrued interest will never be recovered. The assumption for write-offs is the same as for principal, and the distribution for recovery is based on the distribution of the recovery of principal.

The allowance for bad debt – interest on recoverable accounts is determined using the outstanding interest and a provision rate per year since impairment. The provision rate is set at 20% for defaulted interest in the year of impairment. This provision rate increases each year thereafter using the recovery distribution as shown in Appendix 4. Under this methodology, the increasing provision rate reflects the fact that the difficulty of recovering defaults increases as the time since impairment increases. The allowance on non-recoverable accounts is 100% and the interest on these accounts is, on average, written-off in the following year. The variation in allowance for a given year and the remaining allowance of the previous year is charged as part of the annual expense. In the Public Accounts, the Department of Social Development are using this methodology to calculate the allowance and annual expense as at 31 March 2005.

Table 11 Allowance for Bad Debt – Interest ($ million)

Loan Year	Allowance 1 August	Write-Off	Allowance 31 July	Expense of the Year
	(1)	(2)	(3)	(3) – (1 – 2)
2003-04	4	-	13	9
2004-05	13	1	32	20
2005-06	32	3	64	34
2006-07	64	7	108	51
2007-08	108	13	164	69
2008-09	164	21	232	89
2009-10	232	33	306	108
2010-11	306	48	385	127
2011-12	385	65	465	144
2012-13	465	82	543	161
2013-14	543	101	618	176
2014-15	618	119	688	189
2015-16	688	137	751	199
2016-17	751	153	804	207
2017-18	804	171	845	211
2018-19	845	177	885	218
2019-20	885	189	920	223
2020-21	920	198	950	228
2021-22	950	206	977	233
2022-23	977	212	1,002	237
2023-24	1,002	219	1,025	241
2024-25	1,025	224	1,046	245
2025-26	1,046	229	1,065	248
2026-27	1,065	234	1,083	252
2027-28	1,083	238	1,100	255
2028-29	1,100	243	1,116	259

Table 12 provides the details of the calculations for the projection of the allowance for debt reduction in repayment (DRR) under the Direct Loan Regime.

Table 12 Allowance for Debt Reduction in Repayment ($ million)

Loan Year	Allowance 1 August	Provision*	DRR Payment	Allowance 31 July
	(1)	(2)	(3)	(1) + (2) - (3)
2003-04	32	12	-	44
2004-05	44	12	-	56
2005-06	56	13	-	69
2006-07	69	13	3	79
2007-08	79	14	6	87
2008-09	87	14	8	93
2009-10	93	14	10	97
2010-11	97	15	11	101
2011-12	101	15	12	104
2012-13	104	15	13	106
2013-14	106	16	13	108
2014-15	108	16	14	111
2015-16	111	16	14	113
2016-17	113	17	15	115
2017-18	115	17	15	117
2018-19	117	17	15	118
2019-20	118	17	16	120
2020-21	120	17	16	121
2021-22	121	17	17	121
2022-23	121	18	17	122
2023-24	122	18	17	123
2024-25	123	18	17	124
2025-26	124	19	18	125
2026-27	125	19	18	127
2027-28	127	20	18	129
2028-29	129	21	18	131

* The provision for new loans issued accrues on a loan year basis (Public Accounts provision accrues on a fiscal year basis).

Although the enhanced DRR measures from the 2004 Federal Budget are reflected in this report, the provision rate for DRR (0.7%) remains the same as in the previous report. However, the DRR payments for the Guaranteed and Risk-Shared Regimes in loan year 2004-05 have increased significantly from the previous loan year. The data that we received on DRR does not support this increase and is, therefore, incomplete. This situation will be monitored and examined more fully as experience data becomes available for the next report.

The 2004 Federal Budget provided another enhancement to the DRR measure. The total amount of debt reduction available will increase by $6,000 to $26,000. The maximum reductions in each of the three instalments are $10,000, $10,000 and $6,000.

For the purpose of comparison, Table 13 shows the Direct Loan portfolio in 2004 constant dollars. Starting in loan year 2016-17, the portfolio decreases because the assumed inflation rate is higher than the annual growth of the portfolio in Table 10.

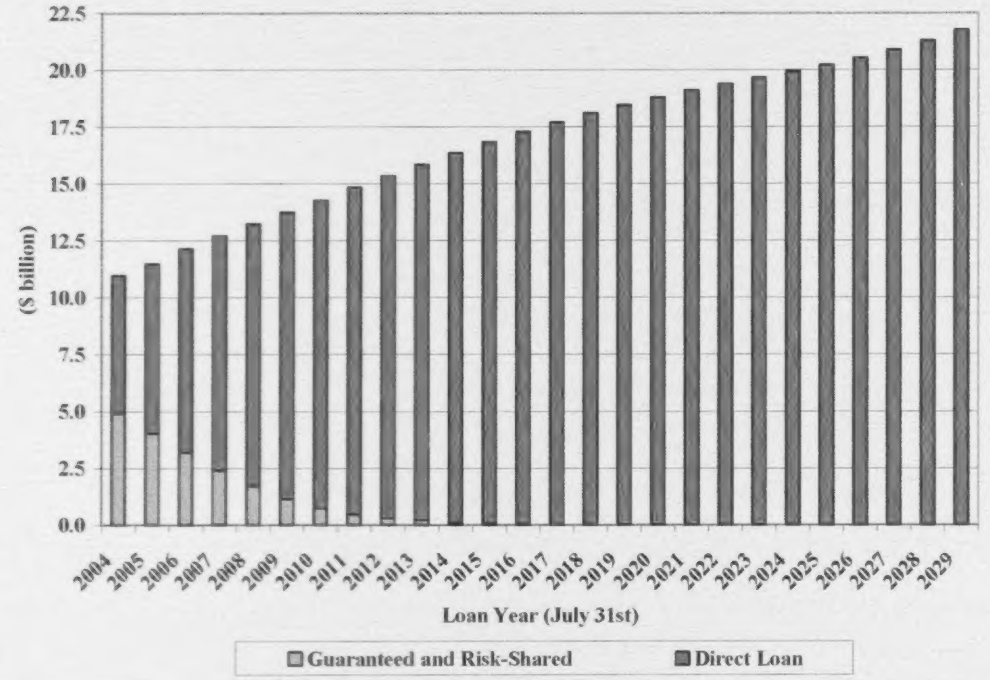
Table 13 Direct Loan Portfolio and Allowances (in millions of 2004 constant dollars)[1]

As at 31 July	Loans In-study	Loans in Repayment	Impaired Loans	Total	Allowances for Bad Debt Principal	Allowances for Bad Debt Interest	Allowances for DRR
2004	3,084	2,528	437	6,050	905	13	44
2005	3,225	3,344	720	7,289	1,104	32	55
2006	3,516	4,067	1,010	8,594	1,315	61	66
2007	3,647	4,770	1,284	9,702	1,498	102	75
2008	3,715	5,371	1,545	10,631	1,655	152	81
2009	3,738	5,875	1,779	11,392	1,787	210	84
2010	3,765	6,236	1,984	11,985	1,894	272	86
2011	3,779	6,512	2,150	12,440	1,977	334	87
2012	3,786	6,662	2,280	12,727	2,039	393	88
2013	3,787	6,757	2,378	12,923	2,082	449	88
2014	3,795	6,828	2,449	13,072	2,114	498	87
2015	3,799	6,861	2,497	13,158	2,134	540	87
2016	3,778	6,875	2,529	13,182	2,143	574	86
2017	3,740	6,869	2,547	13,157	2,143	598	85
2018	3,699	6,844	2,557	13,099	2,137	612	84
2019	3,655	6,804	2,558	13,017	2,126	625	83
2020	3,603	6,751	2,553	12,907	2,110	632	82
2021	3,537	6,699	2,541	12,778	2,088	635	81
2022	3,476	6,623	2,524	12,623	2,063	636	79
2023	3,427	6,536	2,501	12,463	2,038	635	78
2024	3,389	6,444	2,474	12,307	2,012	633	76
2025	3,354	6,356	2,444	12,154	1,987	629	75
2026	3,331	6,273	2,413	12,017	1,963	623	73
2027	3,322	6,200	2,383	11,905	1,943	617	72
2028	3,320	6,142	2,355	11,817	1,927	610	71
2029	3,326	6,098	2,330	11,754	1,914	603	71

[1] For a given year, the value in 2004 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2004.

Chart 5 shows a projection of the loan portfolio split between the Direct Loan, Guaranteed and Risk-Shared Regimes. Guaranteed and Risk-Shared loans are phased-out over time.

Chart 5 Projection of the Loan Portfolios



D. Projection of the Net Cost of the Program

1. Student Related Expenses

The most important expense of the CSLP is the cost of supporting students during their study and repayment periods. This expense includes the interest subsidy, the expenses for interest relief and the provisions or expenses for DRR under the different regimes. The Canada Study Grants support students directly rather than assisting them in the form of loans. The Canada Access Grants proposed in the 2004 Budget are included in this cost.

Table 14 Student Related Expenses ($ million)

Loan Year	Direct Loan			Risk-Shared and Guaranteed			Canada Study Grants	Total
	Interest Subsidy	Interest Relief	Provision* for DRR	Interest Subsidy	Interest Relief	DRR		
2003-04	128.6	24.6	11.5	23.3	43.9	11.8	76.8	320.5
2004-05	126.9	35.2	11.7	13.9	30.7	27.5	78.4	324.1
2005-06	137.5	47.7	13.4	7.8	23.2	31.5	119.1	380.2
2006-07	147.7	55.8	13.4	4.0	16.0	15.0	120.7	372.7
2007-08	155.2	62.4	13.6	1.8	10.8	9.9	122.8	376.5
2008-09	163.5	69.4	13.9	0.9	6.8	6.4	125.3	386.2
2009-10	174.0	74.3	14.2	0.4	3.9	5.7	128.2	400.9
2010-11	184.4	78.7	14.5	0.2	2.2	3.3	131.0	414.2
2011-12	195.3	82.6	14.8	0.1	1.1	2.1	134.0	430.0
2012-13	206.2	86.4	15.2	-	0.6	1.3	137.2	446.9
2013-14	218.2	90.4	15.7	-	0.3	0.6	141.1	466.3
2014-15	230.8	94.6	16.1	-	0.1	0.3	144.9	486.8
2015-16	238.5	98.0	16.3	-	0.0	0.2	148.1	501.1
2016-17	242.5	100.5	16.5	-	0.0	0.1	151.4	511.1
2017-18	246.3	102.8	16.8	-	0.0	0.0	154.9	520.8
2018-19	250.0	104.8	17.0	-	0.0	0.0	158.4	530.2
2019-20	253.2	106.6	17.1	-	0.0	0.0	161.8	538.7
2020-21	255.3	108.1	17.2	-	0.0	0.0	165.0	545.6
2021-22	257.6	109.5	17.4	-	-	0.0	168.6	553.1
2022-23	260.8	110.6	17.7	-	-	0.0	172.6	561.7
2023-24	264.9	111.8	18.0	-	-	-	176.9	571.5
2024-25	269.2	113.1	18.3	-	-	-	181.1	581.7
2025-26	274.5	114.7	18.7	-	-	-	185.9	593.8
2026-27	281.1	116.6	19.3	-	-	-	191.0	608.0
2027-28	288.5	118.9	19.9	-	-	-	196.3	623.6
2028-29	296.8	121.6	20.5	-	-	-	201.9	640.8

* The provision for new loans issued accrues on a loan year basis (Public Accounts provision accrues on a fiscal year basis).

2. Program Risk Expenses

Another expense for the Government is the risks involved in disbursing loans to students. Specifically, the risk of loan default and the risk of loans being forgiven upon a student's death (while studying) or disability are included in this section.

Table 15 Risks to the Government ($ million)

	Direct Loan		Risk-Shared			Guaranteed		
	Provisions for Bad Debt		Risk	Put-back	Refunds	Claims for	Loans	
Loan Year	Principal	Interest	Premium	Fees	to FIs	Impaired Loans	Forgiven	Total
2003-04	393.5	8.8	14.5	4.0	2.9	31.3	11.4	466.4
2004-05	243.3	20.3	11.6	3.1	4.0	17.6	11.6	311.4
2005-06	280.3	34.4	7.2	3.2	4.8	11.1	12.0	352.9
2006-07	280.4	50.9	4.5	3.1	5.5	8.2	12.3	364.8
2007-08	283.4	68.8	2.5	2.9	5.1	6.6	12.5	381.9
2008-09	289.7	88.8	1.2	2.6	4.7	5.2	12.8	404.9
2009-10	297.0	107.9	0.6	2.0	4.6	2.6	13.0	427.7
2010-11	302.6	126.7	0.3	1.3	4.2	1.2	13.4	449.8
2011-12	309.5	144.5	0.1	0.9	3.6	0.5	13.7	472.8
2012-13	316.6	160.8	0.1	0.5	2.8	0.3	14.0	495.1
2013-14	327.3	175.7	-	0.4	2.1	0.2	14.4	520.0
2014-15	336.2	189.3	-	0.2	1.3	0.1	14.8	541.9
2015-16	340.6	199.5	-	0.1	0.9	-	15.1	556.3
2016-17	344.7	206.8	-	0.1	0.6	-	15.5	567.6
2017-18	349.6	211.5	-	-	0.3	-	15.8	577.2
2018-19	354.4	217.8	-	-	0.2	-	16.1	588.5
2019-20	357.7	223.3	-	-	0.1	-	16.3	597.4
2020-21	358.7	228.4	-	-	0.1	-	16.6	603.7
2021-22	362.5	233.0	-	-	-	-	16.8	612.2
2022-23	368.2	237.3	-	-	-	-	17.0	622.5
2023-24	375.3	241.3	-	-	-	-	17.3	633.8
2024-25	381.7	245.0	-	-	-	-	17.5	644.2
2025-26	391.0	248.5	-	-	-	-	17.8	657.3
2026-27	402.6	251.9	-	-	-	-	18.1	672.6
2027-28	414.5	255.3	-	-	-	-	18.5	688.2
2028-29	427.7	258.8	-	-	-	-	18.9	705.4

Under the Direct Loan Regime, the provisions for bad debt (principal and interest) represent the cost of the risk to the Government of being involved directly in the disbursement of loans to students. The adjustment of $207 million to the provision for bad debt – principal is reflected in loan year 2003-04.

Under the Risk-Shared Regime, the risk premium represents the amount paid to lending institutions by the Government based on the value of loans consolidated for repayment in a year. Also included are put-back fees and refunds to financial institutions for loans bought back by the Government.

For the Guaranteed Regime, impaired loans are included in claims paid as a statutory expense, since the Government bears the entire risk of impaired loans under this Regime. In the Public Accounts, Guaranteed loans are classified as assets for which provisions for loan guarantees and loans in default are set up.

Put-back fees exist only in the Risk-Shared arrangement as a way to transfer some of the risk back to the Government. According to the agreement, the Government is only obligated to buy back loans impaired for at least 12 months, up to a maximum of 3% of the total loans in repayment with the financial institution each year. Financial institutions decide whether to sell impaired loans, and if so, which ones to sell. The Government pays a put-back fee of five cents on the dollar for these loans.

The entire amount of recoveries on student loans bought back in the Risk-Shared Regime is considered as a revenue in Table 18. According to the agreement, amounts recovered from income tax refunds are shared with the financial institutions. The participating financial institutions receive a refund of 75% of the amount recovered from income tax refunds in excess of the put-back fees.

3. Administration Expenses

The total administration expenses of the CSLP are the recovery costs of impaired loans and general administration, which are the expenses incurred by the departments involved and fees paid to service providers.

Table 16 Administration Expenses ($ million)

	Direct Loan	Risk-Shared	Guaranteed		
Loan Year	Recovery Cost	Recovery Cost	Recovery Cost	General Administration	Total Administration Expenses
2003-04	5.4	1.0	7.3	114.6	128.3
2004-05	8.3	1.6	6.8	109.9	126.6
2005-06	12.8	1.8	5.9	122.0	142.5
2006-07	17.3	2.0	5.1	125.2	149.6
2007-08	21.6	2.0	4.4	128.7	156.6
2008-09	26.1	1.9	3.7	132.5	164.1
2009-10	30.5	1.8	3.0	136.6	171.9
2010-11	34.8	1.6	2.1	141.2	179.7
2011-12	38.9	1.4	1.3	146.2	187.7
2012-13	42.8	1.1	0.8	151.6	196.3
2013-14	46.5	0.9	0.5	157.3	205.3
2014-15	50.3	0.6	0.4	163.4	214.7
2015-16	54.0	0.4	0.3	169.9	224.5
2016-17	57.6	0.3	0.2	176.5	234.6
2017-18	60.3	0.2	0.1	183.5	244.1
2018-19	62.6	0.1	0.1	190.7	253.5
2019-20	64.7	0.1	0.1	198.2	263.0
2020-21	66.6	-	-	206.0	272.6
2021-22	68.3	-	-	214.1	282.4
2022-23	69.8	-	-	222.5	292.3
2023-24	71.2	-	-	231.3	302.4
2024-25	72.4	-	-	240.3	312.7
2025-26	73.6	-	-	249.8	323.3
2026-27	74.7	-	-	259.6	334.4
2027-28	75.9	-	-	269.8	345.8
2028-29	77.2	-	-	280.4	357.6

4. Other Expenses

Some expenses cannot be divided among regimes. Alternative payments are made directly to Québec, the Northwest Territories and Nunavut, which do not participate in the CSLP. The participating provinces and territory are paid a fee to finance the administration of the CSLP.

Table 17 Summary of Expenses ($ million)

Loan Year	Student Related Expenses	Risks to the Government	Alternative Payments*	Administration Fees Paid to Provinces	Total Administration Expenses	Total Expenses
2003-04	320.5	466.4	160	8.2	128.3	1,083.4
2004-05	324.1	311.4	152	8.3	126.6	922.5
2005-06	380.2	352.9	163	8.5	142.5	1,047.4
2006-07	372.7	364.8	165	8.8	149.6	1,060.9
2007-08	376.5	381.9	161	9.0	156.6	1,085.2
2008-09	386.2	404.9	161	9.3	164.1	1,125.8
2009-10	400.9	427.7	160	9.6	171.9	1,169.9
2010-11	414.2	449.8	162	9.9	179.7	1,215.7
2011-12	430.0	472.8	164	10.2	187.7	1,264.3
2012-13	446.9	495.1	165	10.6	196.3	1,314.1
2013-14	466.3	520.0	166	11.0	205.3	1,368.9
2014-15	486.8	541.9	167	11.4	214.7	1,422.1
2015-16	501.1	556.3	168	11.9	224.5	1,462.1
2016-17	511.1	567.6	167	12.3	234.6	1,492.2
2017-18	520.8	577.2	163	12.8	244.1	1,517.5
2018-19	530.2	588.5	160	13.3	253.5	1,545.3
2019-20	538.7	597.4	158	13.9	263.0	1,570.6
2020-21	545.6	603.7	156	14.4	272.6	1,592.5
2021-22	553.1	612.2	155	15.0	282.4	1,618.1
2022-23	561.7	622.5	155	15.6	292.3	1,646.7
2023-24	571.5	633.8	154	16.2	302.4	1,678.3
2024-25	581.7	644.2	156	16.8	312.7	1,711.0
2025-26	593.8	657.3	158	17.5	323.3	1,749.9
2026-27	608.0	672.6	162	18.2	334.4	1,794.6
2027-28	623.6	688.2	166	18.9	345.8	1,842.1
2028-29	640.8	705.4	170	19.6	357.6	1,893.9

* The calculation of alternative payments is based on expenses and revenues for a given loan year and the payment is accounted for in the following loan year.

As is evident from Table 17, total expenses associated with the Program increase from $1.1 billion in 2003-04 to $1.9 billion in 2028-29. On average, total expenses increase at a rate of 2.3% per year from 2003-04 to 2028-29.

5. Total Revenues

In Table 18, the revenues for the Direct Loan Regime come from the interest earned from student loans in repayment, which include impaired loans and interest relief. This revenue is reduced by the Government's cost of borrowing to obtain the net interest revenue. The interest on impaired Direct Loans, accrued until the status of the loans becomes "non-recoverable", and interest recovered is not recorded.

Under the Guaranteed and Risk-Shared Regimes, there is no interest earned for the Government since students in good-standing pay interest directly to the financial institutions. The only source of revenue from these regimes comes from the recoveries of principal and interest from impaired loans.

On average, total revenues increase at a rate of 4.7% per year from 2003-04 to 2028-29.

Table 18 Total Revenues ($ million)

	Direct Loan			Risk-Shared	Guaranteed	
Loan Year	Student Interest Earned	Borrowing Cost	Net Interest Revenue	Principal and Interest from Recovery	Principal and Interest from Recovery	Total Revenues
2003-04	183.2	-120.9	62.4	10.0	86.6	159.0
2004-05	263.6	-162.8	100.8	15.6	81.5	197.9
2005-06	343.7	-207.3	136.4	17.7	71.8	225.9
2006-07	431.8	-258.7	173.1	19.5	62.2	254.8
2007-08	517.6	-309.0	208.6	19.8	53.6	281.9
2008-09	613.1	-361.3	251.7	19.2	45.2	316.2
2009-10	694.4	-413.8	280.6	18.1	36.8	335.5
2010-11	767.6	-462.6	305.0	16.0	26.4	347.4
2011-12	836.4	-508.4	328.0	13.5	16.0	357.5
2012-13	896.7	-549.9	346.9	11.1	10.3	368.2
2013-14	954.2	-590.3	363.9	8.5	6.7	379.2
2014-15	1,009.6	-629.9	379.8	6.2	4.6	390.6
2015-16	1,052.3	-658.2	394.0	4.3	3.2	401.6
2016-17	1,084.2	-677.5	406.7	2.9	2.4	411.9
2017-18	1,111.2	-695.2	416.0	1.8	1.7	419.5
2018-19	1,138.5	-711.5	427.0	1.1	1.0	429.1
2019-20	1,163.2	-726.6	436.6	0.7	0.8	438.0
2020-21	1,186.7	-741.2	445.6	0.4	0.6	446.5
2021-22	1,207.9	-754.3	453.6	0.2	0.3	454.1
2022-23	1,226.5	-765.8	460.7	0.1	0.2	461.0
2023-24	1,243.7	-776.4	467.3	-	-	467.4
2024-25	1,260.7	-786.8	473.8	-	-	473.9
2025-26	1,277.9	-797.5	480.4	-	-	480.4
2026-27	1,296.4	-809.0	487.4	-	-	487.4
2027-28	1,317.1	-821.9	495.2	-	-	495.2
2028-29	1,340.7	-836.7	504.0	-	-	504.0

6. Net Cost of the Program

Table 19 shows, in current dollars, total expenses, revenues, and the net cost of the Program for the 25-year projection period, while Table 20 shows the same, but in 2004 constant dollars. The expenses and revenues shown correspond to those of the tables presented earlier in this report.

Table 19 Net Annual Cost of the Program ($ million)

	All Regimes			Net Cost of the Program	
Loan Year	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
2003-04	1,083.4	159.0	924.4	881.1	43.3
2004-05	922.5	197.9	724.6	705.1	19.5
2005-06	1,047.4	225.9	821.5	814.5	7.0
2006-07	1,060.9	254.8	806.1	824.4	-18.3
2007-08	1,085.2	281.9	803.2	830.6	-27.4
2008-09	1,125.8	316.2	809.6	840.6	-31.0
2009-10	1,169.9	335.5	834.4	864.7	-30.3
2010-11	1,215.7	347.4	868.3	894.2	-25.9
2011-12	1,264.3	357.5	906.8	925.2	-18.4
2012-13	1,314.1	368.2	945.9	959.8	-13.9
2013-14	1,368.9	379.2	989.7	1,000.1	-10.4
2014-15	1,422.1	390.6	1,031.5	1,039.2	-7.7
2015-16	1,462.1	401.6	1,060.5	1,066.1	-5.6
2016-17	1,492.2	411.9	1,080.3	1,084.3	-4.0
2017-18	1,517.5	419.5	1,098.1	1,100.8	-2.8
2018-19	1,545.3	429.1	1,116.3	1,118.0	-1.7
2019-20	1,570.6	438.0	1,132.6	1,133.8	-1.2
2020-21	1,592.5	446.5	1,146.1	1,146.8	-0.8
2021-22	1,618.1	454.1	1,163.9	1,164.4	-0.5
2022-23	1,646.7	461.0	1,185.7	1,185.9	-0.2
2023-24	1,678.3	467.4	1,210.9	1,211.0	-
2024-25	1,711.0	473.9	1,237.1	1,237.2	-
2025-26	1,749.9	480.4	1,269.5	1,269.5	-
2026-27	1,794.6	487.4	1,307.2	1,307.2	-
2027-28	1,842.1	495.2	1,346.9	1,346.9	-
2028-29	1,893.9	504.0	1,389.8	1,389.8	-

As shown in Table 19, the initial net annual cost for the Direct Loan Program is $881 million for loan year 2003-04. This cost includes the $207 million adjustment of the provision for bad debt – principal. The net cost then decreases to $705 million for loan year 2004-05. For the remainder of the projection period, the net cost of the Program grows, reaching $1.4 billion in loan year 2028-29. This represents an annual average increase of 1.8% for the entire projection period.

In 2004 constant dollars (Table 20), the cost of the Direct Loan Program declines by an average of 0.6% a year, from $881 million in loan year 2003-04 to $751 million in 2028-29.

Table 20 Net Annual Cost of the Program (in millions of 2004 constant dollars)[1]

	All Regimes			Net Cost of the Program	
Loan Year	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
2003-04	1,083.4	159.0	924.4	881.1	43.3
2004-05	904.4	194.0	710.4	691.3	19.2
2005-06	1,006.8	217.1	789.7	782.9	6.7
2006-07	999.8	240.1	759.6	776.9	-17.3
2007-08	1,002.6	260.5	742.1	767.4	-25.3
2008-09	1,019.2	286.2	732.9	761.0	-28.0
2009-10	1,036.7	297.3	739.4	766.2	-26.8
2010-11	1,053.4	301.0	752.4	774.9	-22.5
2011-12	1,070.3	302.6	767.7	783.3	-15.6
2012-13	1,085.8	304.3	781.6	793.0	-11.5
2013-14	1,102.9	305.5	797.4	805.7	-8.4
2014-15	1,116.1	306.5	809.5	815.6	-6.1
2015-16	1,117.3	306.9	810.4	814.7	-4.3
2016-17	1,110.3	306.5	803.8	806.8	-3.0
2017-18	1,099.5	303.9	795.6	797.6	-2.0
2018-19	1,090.2	302.7	787.5	788.7	-1.2
2019-20	1,078.9	300.9	778.0	778.8	-0.8
2020-21	1,065.2	298.6	766.6	767.1	-0.5
2021-22	1,053.8	295.8	758.0	758.3	-0.3
2022-23	1,044.2	292.3	751.9	752.0	-0.1
2023-24	1,036.3	288.6	747.7	747.8	-
2024-25	1,028.7	284.9	743.8	743.8	-
2025-26	1,024.5	281.3	743.2	743.2	-
2026-27	1,023.0	277.9	745.2	745.2	-
2027-28	1,022.5	274.9	747.6	747.6	-
2028-29	1,023.6	272.4	751.2	751.2	-

[1] For a given year, the value in 2004 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2004.

III. Conclusion

The Canada Student Loans Program promotes accessibility to post-secondary education for those with demonstrated financial need by providing loans and grants, thereby encouraging successful and timely completion of post-secondary education. The Government became involved in assisting students because post-secondary education is costly. The CSLP is meant to supplement resources available to students from their own earnings, their families, and other student awards.

Effective 1 August 2000, the Government redesigned the delivery of the CSLP from a program delivered by financial institutions to one directly financed by the Government. As part of this redesign, the Office of the Chief Actuary was given a mandate to conduct an actuarial review to provide an assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, and a discussion of all the assumptions underlying the results of the review. In the delivery of a high quality CSLP actuarial report, it is of the utmost importance to challenge the administration on the quality of data and to gain access to such data.

The number of students receiving a CSLP loan in a year is expected to increase from 343,000 to 438,000 over the projection period. This represents an increase in the loan uptake of students in post-secondary institutions from 41% to 61%. Such an increase in participation in the Program is mainly a result of rising student needs. These needs are affected by the projection of tuition fees and other expenses, which increase at a faster rate compared to resources. Contrary to the past two decades, the number of students enrolled in post-secondary institutions is not a contributing factor to the increase in the cost of the Program, as fewer students are expected to enroll in post-secondary institutions over the projection period.

The growth rate of new loans issued is, on average, 2.3% per year; it comprises an annual average increase of 1.0% in the number of students participating in the CSLP and a 1.3% increase in the average loan size.

The amount of new loans issued increases from $1.6 billion in loan year 2003-04 to $1.9 billion in 2005-06 when the loan limit is increased to $210 per week. It continues to increase during the projection period and reaches $2.9 billion in 2028-29.

The portfolio of student loans increases from $11.0 billion in 2003-04 to $21.7 billion by 2028-29. By 2021, the entire portfolio consists of loans issued in the Direct Loan Regime.

The amount of impaired loans is higher than expected, increasing the provision rate for bad debt – principal from 11.3% to 14.6%. A one time adjustment of $207 million to the allowance for bad debt – principal is made as at 31 July 2004 for all Direct loans issued prior to that date.

The total net cost of the Government's involvement in the CSLP, which is the difference between the expenses and the revenues, is expected to grow from $924 million to $1.4 billion over the projection period. This represents an average annual increase in the cost to the Government of 1.6%.

IV. Actuarial Opinion

In compliance with the standards of practice of the Canadian Institute of Actuaries, we are hereby giving the opinion that,

- the data on which this report is based are sufficient and reliable;
- the demographic and economic assumptions used are, in aggregate, appropriate; and
- the valuation conforms with the requirements of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice.

Michel Millette, F.S.A., F.C.I.A. Senior Actuary	Jean-Claude Ménard, F.S.A., F.C.I.A. Chief Actuary

Ottawa, Canada
1 June 2005

V. APPENDICES

Appendix 1 – Summary of Program Provisions

The Canada Student Loans Program (CSLP) came into force on 28 July 1964 to provide Canadians equal opportunity to study beyond the secondary level and to encourage successful and timely completion of post-secondary education. The Government became involved to assist students because post-secondary education is costly. The CSLP is meant to supplement resources available to students from their own earnings, their families and other student awards.

Historically, two successive acts were established to assist qualifying students. The *Canada Student Loans Act* was established, applying to loan years preceding August 1995 and the *Canada Student Financial Assistance Act* replaced the previous act for loan years after July 1995. Both acts permit the Minister of Human Resources and Skills Development to provide loans to eligible students under the CSLP.

1. Eligibility Criteria

A student must be a Canadian citizen, within the meaning of the *Immigration Act*, and must demonstrate the need for financial assistance to become eligible to receive a loan. A student must also fulfill a series of criteria (scholastic standard and financial) to be considered for a loan. Upon application each year to their province of residence, loans are available to full-time students regardless of age and, since 1983, to part-time students.

2. Partnerships

Since inception in 1964, the Minister has delegated powers, under both appropriate acts, to the participating provinces/territory to administer the CSLP. The participating provinces have their own student financial assistance programs that complement the CSLP. On behalf of the Government of Canada, the provinces and territory also determine whether the students need financial assistance and their eligibility for the CSLP. Provincial/territorial authorities calculate the costs and determine the needs of the student based on the difference between costs and available resources. For each school year, the CSLP covers 60% of the assessed need with a maximum of $165 per week. The participating provinces complement the CSLP by providing 40% of the assessed need with a maximum of $110 per week. The amount of money students may borrow depends on their individual circumstances.

The National Student Loans Service Centre (NSLSC) was established 1 March 2001 to assist students with questions related to the CSLP. Once students qualify for a loan, they obtain their loans from the Government of Canada through the NSLSC. Service providers receive and process all the applicable loan documentation; i.e., from the disbursement to the consolidation and repayments of the loans. They also keep the students informed of all available options.

The type of financial arrangement has varied through time and legislation. The following describes these different arrangements and the risks associated with default.

- Guaranteed Loan Regime: The student loans provided by the lenders (financial institutions) prior to August 1995, under the *Canada Student Loans Act*, are fully guaranteed by the Government to the lenders. The Government reimburses the lenders for the outstanding principal, accrued interest and costs, in the event of default or death of the student. Therefore the Government bears all the risks involved with Guaranteed loans.
- Risk-Shared Loan Regime: For the period from August 1995 to July 2000, student loans continued to be disbursed, serviced and collected by financial institutions; however, the loans were no longer fully guaranteed by the Government. Instead, the *Canada Student Financial*

Assistance Act permitted the Government to pay financial institutions a risk premium of five per cent of the value of loans that consolidated each loan year. Under this financial arrangement, the Government is not at risk except for the payment of the risk premium. Also, financial institutions can decide to sell a certain amount of impaired loans and the Government has to pay a put-back fee of five cents on the dollar for these loans. A part of the recoveries is shared with financial institutions.

- Direct Loan Regime: A new direct loan arrangement came into force, effective 1 August 2000, following the restructuring of the delivery of the Program and amendments made to the *Canada Student Financial Assistance Act* and Regulations. The Government issues loans directly to the student and, again, bears all the risks involved.

3. Loan Benefit

a) In-study Interest Subsidy

The CSLP provides an interest-free loan during the period that the student is studying full-time. The benefit is available to full-time students only and takes the form of an in-study interest subsidy. During this period, the Government pays interest (Government cost of borrowing) on the loan; no payment on the principal is required from the student until they graduate.

Part-time students are provided assistance in the form of a line of credit. Unlike full-time students, they must make interest payments while in school. If a student's income is below a certain level while in school, the student may qualify for interest relief.

b) Loan Consolidation

At graduation, or if the student does not return to school, all of the student's loans are consolidated or added together during the six-month grace period. During this period, interest accrues on the loan(s) but no payment on the principal is required; the student has to negotiate an agreement with the lending institution to set out the repayment terms. This is called consolidating all the loans and the student is now considered a borrower in repayment. Since July 1995, the interest rate used to calculate the monthly payment is equal to the prime rate plus 250 basis points for the majority of students.

For loans issued prior to August 1993, no interest accrued during the grace period because the Government continued to pay interest on the loans during this period in the same manner as for the in-study period. For loans issued after July 1993, the student is liable for interest that accrues on loans during this grace period.

Each year, once students return to school, they must provide the financial institutions or the NSLSC with proof of enrolment for each study period in which they are enrolled, even if they are not applying for a new loan. This prevents automatic consolidation from occurring while the student is still in school and permits the student not to pay interest on their loan.

c) Repayment Assistance

The CSLP has measures in place to help students repay their loans - interest relief, extended interest relief and debt reduction in repayment (DRR).

In 1983, the Government introduced a maximum of 18 months of interest relief to assist students experiencing financial difficulty in repaying their loan. The Government assumes responsibility for making interest payments on the outstanding loan and no principal payments are required. In 1997, a measure extended the maximum interest relief that could be obtained from 18 to 30 months. At first, the interest relief had to be taken within the first five years after the completion

of studies; then, in 1998, the five-year limit was removed, entitling anyone to receive interest relief at any time during the repayment period.

The Government also introduced a new extended interest relief measure for students who remain in financial difficulty after the exhaustion of the 30 months of interest relief. First, the repayment period is extended to 15 years to provide the student lower monthly payments. Second, if the student is still in financial difficulty, the interest relief period may be extended further to completely cover the first five years after leaving school. As much as 24 additional months may be awarded if the student is still within the first five-year period after leaving school, bringing the number of interest relief months up to a maximum of 54 months.

In 1998, the Government introduced a DRR measure to help students who remain in financial difficulty after all possible interest relief is exhausted. Initially, a 50% loan reduction in principal up to $10,000 was introduced. In 2003, the 50% loan reduction cap was removed, leaving the loan reduction up to $10,000 in place. In addition, two new loan reductions up to $5,000 each were introduced for borrowers still experiencing financial hardship in repayment. To determine whether the previous reduction resulted in a manageable debt level, twelve months must have elapsed between each reduction.

Also, the Minister has the authority, upon application and qualification, to forgive the loan in the event of a borrower's permanent disability or death.

4. Canada Study Grants

Canada Study Grants were introduced as non-repayable grants administered since 1995 by the participating provinces on the Government's behalf. These grants are taxable and they assist students with permanent disabilities, high-need part-time students, women pursuing certain doctoral studies and students with dependants.

Appendix 2 – Summary of Proposed Amendments to the Program

The following changes should occur after the valuation period and are appropriately taken into account (unless noted otherwise) in this actuarial review to provide a precise assessment of the current costs of the CSLP as well as a long-term forecast of these costs. Budget 2004 proposes the following measures for implementation by 1 August 2005:

1. New grant of up to $3,000 for first-year post-secondary students from low-income families

This grant will be available to dependent students whose family income falls within the range of entitlement to the National Child Benefit supplement (generally, those are families with incomes under $35,000). The grant will cover half of tuition, up to the lesser of $3,000 or the student's assessed federal need. It will reduce the amount of federal student debt that would otherwise be incurred.

2. Introduction of an up-front annual grant of up to $2,000 for students with disabilities

The grant will cover the lesser of $2,000 or the student's assessed federal need. The new grant will replace the existing grant for students with disabilities that is paid only to those who have financial needs in excess of the weekly loan ceiling. The Canada Study Grant for students with disabilities that covers the cost of education-related services and equipment will still be available.

3. Increase in the ceiling for Canada Student Loans to $210 a week from $165

The weekly loan ceiling for the federal loan will be increased from $165 to $210 to take into account increasing costs and the growing need for study tools, such as computers. The ceiling will be reviewed periodically in light of the rising cost of education.

4. Inclusion of computers and computer-related costs

The eligible expenses under the current books and supplies allowance will be extended to include an annual allowance from the federal government of up to $300 for computers and computer-related costs. The annual allowance will be part of the current $3,000 maximum for books and supplies. A student will be eligible for this allowance in every year they are eligible for a CSL but there will be no carry-forward.

5. Parental contributions expected from middle-income families will be reduced

Some children are not currently eligible for Canada Student Loans because of the expected high parental contribution included in the assessment of needs. The proposed change would provide more access to student loans for students from families with incomes of $60,000 to $100,000.

6. For former students facing financial difficulty in repaying their student debt, the following features are proposed:

- In the determination of eligibility for interest relief, a borrower's monthly family income must fall below an established income threshold in relation to the required monthly payment on the loan. The Government will increase the income thresholds by 5 per cent.
- For students who are still in financial difficulty after exhausting available interest relief, the DRR measure will permit to forgive up to $26,000 (up from $20,000) of their outstanding debt over a three-year period.

Appendix 3 – Data

The input data required with respect to Direct loans were extracted from data files provided by Human Resources and Skills Development (HRSD).

1. Direct Loans Issued

Table 21 presents the data extracted from an HRSD file on the number of students and amount of Direct loans issued for loan years 2000-01 to 2003-04 compared with HRSD publicized data. The data regarding loans issued were found to be complete.

Table 21 Direct Loans Issued and Number of Students

	Amount of Loans Issued ($ million)		Number of Students	
Loan Year	HRSD File	HRSD Publication	HRSD File	HRSD Publication
2000-01	1,578	1,570	344,340	346,568
2001-02	1,509	1,512	328,756	331,541
2002-03	1,543	1,549	328,548	331,763
2003-04	1,641	1,648	339,778	343,000

2. Direct Loans Consolidated

Table 22 presents the number and amount of consolidated Direct loans extracted from HRSD data files. The amounts are compared with data of the Monthly Financial Information Schedule (MFIS). The consolidation date is not available in the data file. It is approximated from the last post-secondary end date. Therefore, the consolidated amounts may be overestimated, especially in the last two loan years, since some students that are still in school are assumed to have consolidated their loan.

Table 22 Direct Loans Consolidated

	Amount of Loans Consolidated ($ million)	
Loan Year	HRSD File	MFIS
2000-01	29.5	62.2
2001-02	722.7	772.2
2002-03	1,099.0	988.8
2003-04	1,406.6	1,151.3
All	3,257.8	2,974.6

3. Defaults and Recoveries for Direct Loans

Table 23 shows the data on defaults and recoveries (principal only) for Direct loans extracted from HRSD data files. The data regarding defaults and recoveries were found to be complete.

Table 23 Defaults and Recoveries for Direct Loans

Loan Year	Defaults ($ million)	Recoveries ($ million)
2000-01	0.5	0
2001-02	3.5	0
2002-03	236.9	22.8
2003-04	260.8	48.0

4. Interest Relief

Table 24 compares amounts of interest relief payments for Direct loans, obtained from HRSD, and the interest relief expense extracted from the HRSD data files. The interest relief file does not contain interest relief payment information; it has to be estimated using the interest rate, outstanding principal amounts, and interest relief start and end dates.

Table 24 Interest Relief Payment Data for Direct Loans ($ million)

Loan Year	Amounts Obtained from HRSD	Estimated from HRSD Files
2000-01	0	0
2001-02	3.1	4.0
2002-03	13.4	14.6
2003-04	24.0	24.0

5. Debt Reduction in Repayment

Table 25 compares payment amounts of DRR, obtained from HRSD, with the DRR amounts extracted from HRSD data files.

Table 25 Debt Reduction in Repayment for Guaranteed and Risk-Shared Loans ($ million)

Loan Year	Amounts Obtained from HRSD	Estimated from HRSD Files
2001-02	5.3	5.3
2002-03	8.6	8.9

Two data files on DRR were received from HRSD, which contained a total of seven years of data. Of these seven years, only the data for two loan years (2001-02 and 2002-03) were considered to be complete and reliable. The data received for loan years 2003-04 and 2004-05 are incomplete and could not be used to verify the substantial increase in DRR that occurs between these two loan years.

Appendix 4 – Assumptions and Methodology

1. Growth of Total Loans Issued

The growth of total loans issued is related to the number of students participating in the CSLP, the evolution of needs of those CSLP students, and the loan limit. The evolution of the number of CSLP students and their needs is discussed below.

a) Evolution of Number of CSLP Students

i) Demographic Evolution

The demographic evolution involves changes in the composition of the future population aged 18-34 for Canada, excluding the non-participating province of Québec and the territories of the Northwest Territories and Nunavut. Future fertility, mortality, and migration assumptions are applied to this population. The fertility, mortality, and migration assumptions are based on those used in the actuarial reports of the Canada Pension Plan and Old Age Security.

ii) Post-secondary Enrolment

The evolution of post-secondary enrolment shows a long-term decrease in post-secondary enrolment primarily caused by the future anticipated labour shortage. This labour shortage is caused by the significant aging of the Canadian population and will considerably raise labour force participation rates. The labour force non-participation rates associated with post-secondary enrolment are shown for years 2003-04, 2010-11, and 2028-29 in Table 26 below.

Table 26 Enrolment of Students in Post-secondary Education (for Loan Years)

Age Band	Not in Labour Force 2003-04 (1)	Not in Labour Force 2010-11 (2)	Change – Not in Labour Force (2) / (1) - 1	Not in Labour Force 2028-29 (3)	Change – Not in Labour Force (3) / (1) - 1
	%	%	%	%	%
18-19	35.0	32.7	-6.8	29.6	-15.6
20-24	24.1	22.0	-8.8	20.9	-13.3
25-29	14.2	14.8	4.0	13.3	-6.4
30-34	13.2	12.6	-4.5	11.3	-14.7
18-34	19.3	18.2	-5.5	16.5	-14.7

A labour shortage is forecasted in Canada after the year 2015 due to the significant aging of the Canadian population. This shortage will raise future labour force participation rates. A higher expected labour force participation rate in the future implies that a smaller percentage of potential students will choose to attend a post-secondary institution on a full-time basis.

Table 26 shows a decrease in the inactive population, with an expected cumulative decrease of 5.5% over the next seven years and a larger decrease of 14.7% by 2028-29. This labour shortage will cause the expected decrease in the population not participating in the labour force from 2010-11 to 2028-29. This decrease is mainly concentrated in the older age ranges (25-34) since these individuals are more likely to choose being employed over attending school for a long period of time, given that suitable work is available to them. The younger age group is more likely than the older age group to attend college or university regardless of the situation in the labour force.

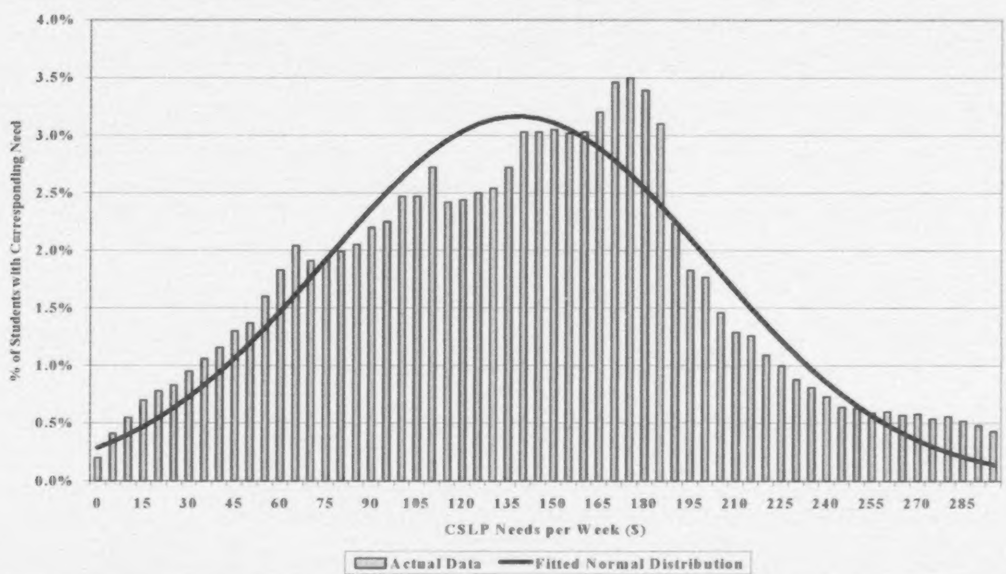
iii) Participation in the CSLP

HRSD has provided CSLP needs assessment data for the past four loan years. The CSLP need per week was determined using the following calculation:

CSLP need per week = (assessed need / number of assessed weeks) x 60%

CSLP weekly needs represent 60% of the assessed weekly needs because the CSLP provides 60% of the total loan, while the participating province or territory of residence provides the remaining 40%. A histogram of the CSLP weekly needs was created and very closely resembled a normal distribution. Chart 6 below shows the normal distribution fitted to the actual CSLP students' weekly needs data.

Chart 6 2001-02 Actual Needs and Fitted Normal Distribution



The normal distribution provides a good fit, but was adjusted slightly in order to provide a better fit to the historical data. First, at $0 of need, there will be no loans issued and no loans will be issued for negative need. A second-degree polynomial replaced the normal distribution to the left of the peak to ensure the distribution complied with this logic. Second, the proportion of students at or above the loan limit is known for this historical data, so the entire curve was shifted slightly to the right to reflect the proper proportion. The new distribution created by making these small adjustments will be referred to as a modified normal distribution.

For each year in the projection period, the average need increase from the prior year was calculated using the projections for tuition fees, other expenses, and resources. Students with low needs may experience a small increase in their needs since they have resources to offset the expense increase. Students with high needs will experience a larger need increase because they do not have sufficient resources to offset an increase in expenses.

The projected average need increases are used to determine new parameters for the modified normal distribution in each of the projection years. Analysis of four years of needs assessment data showed that the mean of the needs curves increased at a slower rate than the projected average student needs. Thus, the mean of the CSLP students' needs curve is

assumed to be the average of the prior year plus two-thirds of the projected average student need increase. After the new parameters are determined, the CSLP students' needs curves are projected for the 25-year period.

Since a shift in each modified normal distribution represents the increase in the proportion of students in the CSLP, an assumption was made regarding the growth of the curves. It is assumed that the intersection of subsequent curves will occur at the need corresponding to the average need of the prior year plus one-half of the projected average need increase during the current year. Having the intersection of curves occur slightly to the right of the average need makes sense because as needs increase from year to year, students will move further to the right of the needs curve. Using this assumption, each curve was adjusted, resulting in the area under successive curves exceeding 100%. The increased area under the curve represents an increase in participation in the CSLP. For example, if the area under the 2004-05 needs curve is 100% and the area under the 2005-06 curve is 102%, then the loan uptake rate will increase by 2%. The product of the number of students enrolled full-time and the loan uptake rate gives the number of students in the CSLP.

b) Evolution of Needs of the CSLP Students

As discussed in the Main Report, students' needs are defined as the excess of tuition and other expenses over student resources. These elements were also checked for consistency with the average values contained in the needs assessment files. Table 5 shows the evolution of students' needs throughout the projection period.

i) Tuition

Tuition fees are, in part, determined by government policies. Thus, they are determined using provincial budgets stating the government's intentions, along with recent and historical experience for projecting short and long-term increases in tuition fees. The future evolution of tuition is shown both in Table 5 of the Main Report and Table 27 of this appendix.

To arrive at an estimate for tuition increases, the provinces' respective budgets stating their intentions, along with actual tuition increases as reported in news releases and by statistics sources, were used to project tuition increases for the next four years. Table 27 below illustrates these results.

Table 27 Short-term Increase of Tuition Expenses

Province	Weight	Budget/Experience	Results			
			2004-05	2005-06	2006-07	2007-08
	%		%	%	%	%
Newfoundland	2.8	freeze	0.0	0.0	0.0	0.0
Prince Edward Island	0.9	4.0% increase	4.0	4.0	4.0	4.0
Nova Scotia	6.3	7.5% increase, followed by increases of 3.9%	7.5	3.9	3.9	3.9
New Brunswick	4.9	5.5% increase	5.5	5.5	5.5	5.5
Ontario	46.0	a two-year freeze, followed by a 2.5% increase	0.7	0.0	2.5	2.5
Manitoba	2.7	0.1% increase	0.1	0.1	0.1	0.1
Saskatchewan	4.2	6.2% initial increase, followed by a one-year freeze, then 2.5% increase	6.2	0.0	2.5	2.5
Alberta	12.4	7.6% initial increase, followed by a one-year freeze, then 2.5% increase	7.6	0.0	2.5	2.5
British Columbia	19.9	10.0% initial increase, followed by tuition indexed to inflation	10.0	2.0	2.0	2.0
Weighted Average			4.3	1.0	2.5	2.5

The long-term estimate of tuition is based on past increases in tuition relative to increases in the CPI. Over the last 26 years, tuition increases have been, on average, close to CPI plus 3.0%. In the past, government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Since similar budgetary pressures are expected in the future due to the aging of the population, the 2.5% tuition increase for 2007-08 is graded to reach the CPI increase plus 3% by 2012-13.

The starting point for the 2003-04 tuition fees is calculated from a Statistics Canada Education Division survey on tuition fees, tabulated on a provincial basis. The average tuition was weighted by the total amount of loans issued in each participating province. This analysis resulted in an estimate of $5,054 for average tuition fees in 2003-04.

ii) Other Expenses

Other expenses are considered to be any student expense other than tuition fees. These expenses include books, shelter, food, clothing and transportation and are assessed by the participating provinces and territory.

Expenses are separated into two categories: books and living costs. In previous actuarial reports, it was assumed that all students live away from home, pay for their lodging, and incur expenses for the full 12 months. This simplifying assumption was necessary in the absence of data on students' living arrangements. However, with the CSLP needs assessment data received from HRSD, it is now possible to form an assumption regarding students' living arrangements. Also, past reports have assumed that monthly living costs are the maximum allowable costs as stated in Table 3 of HRSD Policy and Procedures Manual. The CSLP needs assessment data can also be used to form an assumption regarding the percentage of maximum allowable expenses incurred by living arrangement.

Table 28 Monthly Living Costs 2003-04

Living Arrangement	Weight in %	Maximum Monthly Living Costs ($) Shelter	Food[1]	Trans-portation	Miscel-laneous[2]	Total	% of Max Monthly Living Costs ($)	Annual Living Costs ($)
Single, living away from home	68.0	422	199	60	214	895	60.0	6,444
Single parent	8.0	676	199	60	214	1,150	94.0	12,967
Married student & spouse	8.5	845	365	121	409	1,740	66.0	13,778
Single, living at home	15.5	0	161	60	168	389	63.0	2,942
Weighted Average		**413**	**207**	**65**	**223**	**909**		**7,046**

(1) Purchased from stores.
(2) Personal and health care, clothing, household cleaning, communications.

Books and supplies are assumed to be roughly equal to 20% of tuition, which is $5,054 for 2003-04. The assumption of 20% is consistent with the ratio of books and supplies to tuition in the four years of needs assessment data. The total expense attributable to books and supplies is $1,011 (20% x $5,054). The total amount of the CSLP student expenses (excluding tuition), indexed to future increases in the CPI, amounts to $8,057 ($7,046+$1,011) for loan year 2003-04.

iii) Student Resources

Student resources include student wages, parental contributions, and other resources. Increased resources ultimately serve to reduce the maximum loan available to students through needs analysis. Student needs are developed in Table 5 of the Main Report.

The starting point for average resources in 2003-04 is calculated as a residual value. Since the average loan size approximately equals average expenses minus average resources, then average resources are roughly equal to average expenses minus average loan size with adjustments for unmet needs and the in-study income exemption. This results in an estimate of $3,412 for a student's average resources in 2003-04.

2. Consolidation

Under the Direct Loan Regime, loan consolidation is assumed to occur according to the distribution of consolidation by year, shown in Table 29, over a period of fourteen years after a loan is issued. This distribution was derived from past CSLP data.

Table 29 Distribution of Consolidation

Year After the Loan was Issued	% Consolidated
1st	3.0
2nd	42.8
3rd	24.6
4th	17.0
5th	4.3
6th	2.9
7th	1.8
8th	0.8
9th	1.7
10th	0.1
11th	0.1
12th	0.2
13th	0.2
14th	0.5

3. Interest Relief

Table 30 shows the utilization rates of interest relief for the Direct Loan Regime for loan year 2004-05 and onwards. These rates are set equal to the non-adjusted rates for the Guaranteed and Risk-Shared Regimes. For loan year 2003-04, the utilization rates are adjusted to 90% of the rates in Table 30. For loan year 2005-06 and onwards, the utilization rates are adjusted by 110% of the rates in Table 30 in order to take into account the modification to interest relief eligibility proposed in the 2004 Budget.

Table 30 Utilization Rates for Interest Relief for the Direct Loan Regime

Year Since Consolidation	First Year in IR	Second Year in IR	Third Year in IR	Fourth Year in IR	Fifth Year in IR
0 – 1	34.35%	18.01%	10.46%	5.21%	1.00%
1 – 2	4.50%	2.18%	1.17%	0.35%	
2 – 3	2.82%	1.27%	0.65%		
3 – 4	1.28%	0.52%	0.24%		
4 – 5	0.61%	0.24%	0.13%		
5 – 6	0.25%	0.09%			
6 – 7	0.13%				
7 – 8	0.05%				

4. Debt Reduction in Repayment

Debt reduction in repayment (DRR) is taken once all possible interest relief is exhausted by the student borrower. This is a relatively new program and there is limited experience from it. Moreover, DRR was enhanced through both the 2003 and 2004 Federal Budgets. Thus, starting

in loan year 2005-06, the DRR measure consists of three reductions: $10,000, $10,000 and $6,000.

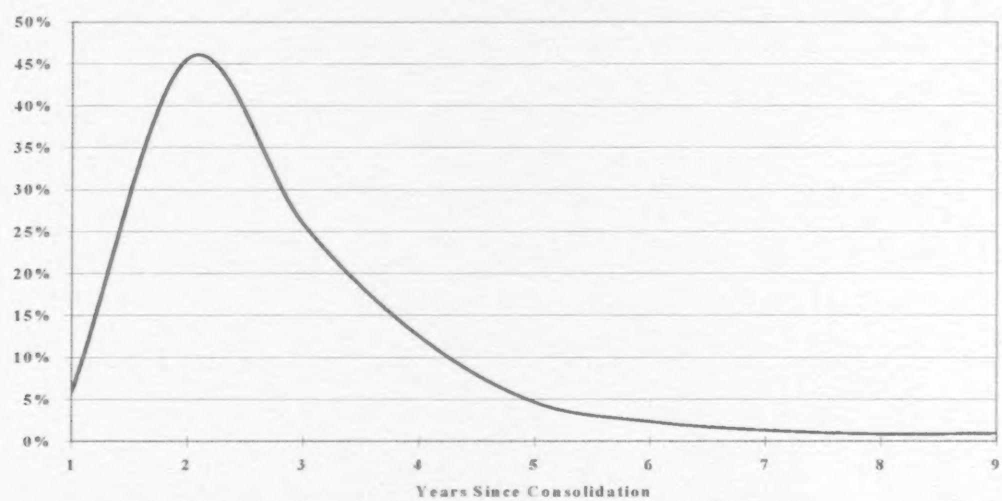
For the first time, it was possible to establish the assumptions regarding the DRR measure using a data file provided by HRSD. The assumption for the proportion of loans going on DRR, after exhausting interest relief, is 63%, 12% and 3%, respectively for each of the three DRR instalments. The average amount of debt relief is set at 40.3%, 7.7% and 1.5%, respectively for the three reductions. Those rates will be modified as more experience data becomes available.

5. Default Rate

There was a larger than expected amount of defaults in loan years 2002-03 and 2003-04.

To determine the initial default distribution, the amounts of impaired loans from the Guaranteed Regime were analyzed by consolidation year. Consolidation loan years 1992-93 to 1995-96 were considered for the analysis. The average distribution is shown in Chart 7. According to this distribution, around 77% of the defaulted loans occurred in the first three years following consolidation.

Chart 7 Default Distribution



Defaulted loans for the Direct Loan Regime are extrapolated from the distribution presented in Chart 7 and from the default amounts already known for loan years 2000-01 to 2003-04.

Table 31 presents the actual and extrapolated amounts of defaults for the first four loan consolidation years of the Direct Loan Regime. The weighted average gross default rate is 40.7%.

Table 31 Direct Loan Regime – Gross Default Rate

Consolidation Loan Year	Consolidation Amount	Defaulted Amount Actual	Defaulted Amount Extrapolated	Gross Default Rate
2000-01	29.5	7.1	7.6	25.9%
2001-02	722.7	236.4	290.1	40.1%
2002-03	1,099.0	262.0	437.6	39.8%
2003-04	1,406.6	226.0	589.2	41.9%
			Weighted Average	**40.7%**

The gross default rate of 40.7% is then adjusted for two reasons:

a) in August 2003, the automatic pre-authorized payment program was temporarily unavailable for legal reasons. This situation led to exceptional defaults that should not be considered in the establishment of the long-term default rate. Therefore, the gross default rate decreases from 40.7% to 36.7% when adjusted for this isolated event.

b) the experience shows that the default rate is higher for students from private institutions than students from public institutions. Moreover, students from private institutions consolidated their loans at a faster pace than those from public institutions because of the shorter programs of study. This situation inflated the default rate at the beginning of the Direct Loan Regime. In the long-term, the proportions of consolidations for private and public institutions for a year should be proportional to the loans issued for private and public institutions. Using these as the consolidation proportions, a downward adjustment of 1.3 basic percentage points was applied to the gross default rate. The gross default rate therefore decreases from 36.7% to 35.4%.

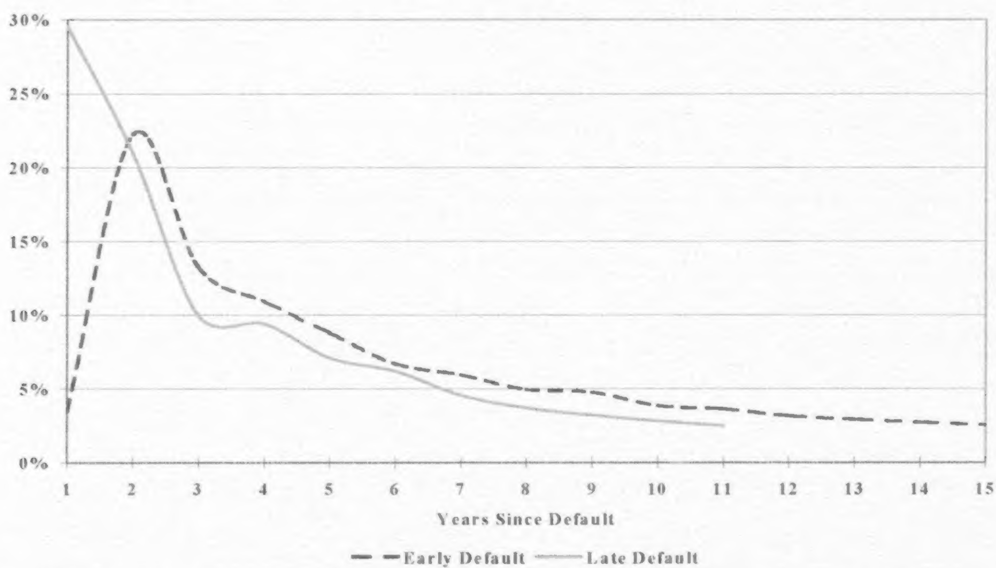
6. Recovery Rate

The recovery amounts for loans in the Guaranteed Regime were analyzed by consolidation year and by year since default. The empirical data were fit to a Weibull distribution. The flexible shape of this distribution makes it an appropriate fit for modelling the recovery process.

To fit the empirical data to a Weibull distribution, the parameters of the distribution were estimated by minimizing the sum of squares of the errors with the curve. Once these parameters were found for all years of default, recoveries were extrapolated by adjusting the tail of the Weibull distribution to the empirical data. The recovery period was limited to 15 years as a realistic time frame in which loans can still be recovered.

Separate distribution curves were obtained for the first four years of default occurrence since consolidation; a fifth curve is used as the ultimate distribution to extrapolate data in future years (Chart 8). The distribution curves are used to extrapolate recoveries for Direct loans.

Chart 8 Recovery Distribution Depending on Date of Default



Direct loans, which experienced higher defaults than expected, generated a much higher recovery rate compared to prior reports. Therefore, the assumed recovery rate for Direct loans is increased to 60% in this report. The extrapolated results show that the average recovery rate for Direct loans is 60.0%, resulting in a net default rate of 14.2% (35.4% x (1 – 60%)).

7. Bad Debt Provision – Principal

According to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision should be determined using the best-estimate available in light of past experience, current conditions and future expectations. As described previously, the net default rate is set at 14.2%. Because the default rate is based on experience, the net default rate is no longer reduced by program enhancements, the economic environment and DRR measures, as in previous actuarial reports. However, the adjustment for interest accrued during the grace period still applies.

Table 32 Bad Debt Provision – Principal

Historical Net Default Rate		14.2%
Adjustment: Interest Accrued on Loans during Grace Period	+0.4%	
Bad Debt Provision – Principal		14.6%

For the Direct Loan Regime projections, the assumption used for the gross default rate on loans consolidated is 35.4%, while the assumption used for the recovery rate is 60%. This gives a net default rate of 14.2%. The provision rate is set at 14.6% on new loans issued to take into account the interest accrued on loans during the grace period.

8. Bad Debt Provision – Interest

The methodology for the calculation of the bad debt provision – interest takes into account the number of years since impairment. Interest on impaired loans is accrued until the loan reaches the "non recoverable" status. A loan reaches this status when the collectibility of either principal or interest is not reasonably assured. Generally, a loan is written-off in the year following its transfer from a "recoverable" to a "non-recoverable" status.

Since the interest on impaired loans is accounted for as revenue, an allowance is established to cover the risk that such accrued interest will never be recovered. Basically, the methodology involves the calculation of:

- accrued interest in each year on impaired loans at the student cost of borrowing rates,
- projected outstanding interest at the end of each year, using write-off and recovery distributions, as presented below, and
- projected allowance at the end of each year by adding, per year since impairment, the product of recoverable outstanding interest accounts and the corresponding provision rate; then 100% of outstanding non-recoverable accounts is added.

The expense for a year is equal to the variation between the total allowance (on recoverable and non-recoverable accounts) at the end of the year and the remaining allowance of the previous year.

Table 33 presents, according to the number of years since impairment, the write-off and recovery distributions for interest on impaired loans as well as the provision and recovery rates. The

write-off distribution is also used for the calculation of provision for bad debt – principal. All of these distributions are the same as in the previous report.

Table 33 Distribution for Allowance for Bad Debt – Interest (Direct Loans)

Number of Years Since Impairment	Distribution (%)		Provision Rate (%)	Recovery Rate (%)
	Write-off	Recovery		
Less than 1	4	26	20.0	80.0
Between 1 and 2	4	19	40.8	59.2
Between 2 and 3	12	18	56.0	44.0
Between 3 and 4	12	12	70.4	29.6
Between 4 and 5	12	7	80.0	20.0
Between 5 and 6	11	4	85.6	14.4
Between 6 and 7	11	3	88.8	11.2
Between 7 and 8	10	3	91.2	8.8
Between 8 and 9	8	2	93.6	6.4
Between 9 and 10	5	1	95.2	4.8
Between 10 and 11	4	1	96.0	4.0
Between 11 and 12	3	1	96.8	3.2
Between 12 and 13	2	1	97.6	2.4
Between 13 and 14	1	1	98.4	1.6
Between 14 and 15	1	1	99.2	0.8

The recovery distribution is based on the distribution of the recovery of principal. The provision rate for interest on loans in default less than one year is set at 20%, and the corresponding recovery rate is set at 80%. The following recovery rates are obtained by taking the product of 80% and the sum of future recovery percentages of the distribution. Provision rates are the difference between 100% and the recovery rate. For example, the calculation of the rates for the period "between 4 and 5" years is:

Recovery rate = 80% * (7% + 4% + 3% + 3% + 2% + 1% + 1% + 1% + 1% + 1% + 1%)
= 80% * 25%
= 20%
Provision rate = 100% - 20% = 80%

Using this methodology, about 37% of all projected accrued interest on impaired loans will be recovered, which is close to the Guaranteed Loans' experience over the last 15 years.

9. Other Assumptions

a) Alternative Payments

The projection of alternative payments was made by multiplying the net cost of the Program by the ratio of the population aged 18-24 residing in the non-participating province and territories to the population aged 18-24 residing in the participating provinces and territory.

For the calculation of the alternative payments, the expenses are: interest subsidies, interest relief expenses for Risk-Shared and Guaranteed Regimes, loans forgiven, recovery costs, service providers' costs, Canada Study Grants, claims, risk premiums, put-backs, refunds to financial institutions, Direct Loans' borrowing costs for loans in repayment or on interest relief (i.e. in good-standing) and default amounts for the Direct Loan Regime. The revenues are: students' interest payments and principal and interest from recoveries. The cost of alternative payments was $160 million for loan year 2003-04 based on expenses and revenues of loan year 2002-03 and $152 million for loan year 2004-05 based on expenses and revenues of loan year

2003-04. To reconcile with past experience, the projections of alternative payments include an adjustment factor of 9%.

b) Recovery Costs

The recovery costs have been projected using a percentage of the recoveries. The assumption used for the recovery costs is 10.1% of the total recoveries. This rate is assumed to be constant in the future.

c) Administration Costs

HRSD provided estimates of the administration costs to support the CSLP for three fiscal years. The costs have been converted to a loan year basis, and the extrapolation of future years was done using wage increases. Administration costs include expenses for service providers and are shown below in Table 34.

Table 34 Administration Costs

Loan Year	Administration Costs ($ million)
2003-04	114.6
2004-05	109.9
2005-06	122.0
2006+	Increase with wages

d) Administration Fees Paid to Provinces

For loan year 2003-04, the administration fees paid to the participating provinces and territory was $8.2 million. The increase in wages is used to project this expense.

e) Canada Study Grants

For loan year 2003-04, the actual cost of the Canada Study Grants is $76.8 million. For future years, the cost of Canada Study Grants is projected to increase with inflation. As proposed in the 2004 Federal Budget, the grants for low income families are included starting in 2005-06.

f) Loans Forgiven

For loan year 2003-04, the cost of loans forgiven is $11.4 million. The projection of loans forgiven follows the increase of the portfolio that performs normally (loans in study and in repayment).

Appendix 5 – Sensitivity Tests

An actuarial examination of the CSLP involves the projection of its income and expenditures over a long period of time. The information presented in section A of the Main Report has been derived using "best-estimate" assumptions regarding demographic and economic trends. Sensitivity tests are performed using assumptions for which changes within a reasonable range have the most significant impact on the long-term financial results.

Both the length of the projection period and the number of assumptions required ensure that actual future experience will not develop precisely in accordance with the best-estimate assumptions. Sensitivity tests have been performed, consisting of projections of CSLP financial results using alternative assumptions.

For each sensitivity test, key assumptions were changed individually, with the other assumptions being maintained at their best-estimate levels. Two tests were performed with respect to each of the assumptions, except for the loan limit where only one test was performed. The alternative assumptions selected are intended to represent the limits of potential long-term experience. However, it is possible that actual experience could lie outside these limits.

Each of these tests was then categorized as either a "low-cost" scenario or "high-cost" scenario. In the "low-cost" scenarios, the alternative assumptions have the effect of reducing the annual cost of the Program. Conversely, in the "high-cost" scenarios, the assumptions would increase the Program cost.

Table 35 below summarizes the alternative assumptions that were used in the sensitivity tests. The table is followed by a brief discussion of each assumption, and the sensitivity test results are presented in Table 37 at the end of this Appendix.

Table 35 Long-term Sensitivity Test Assumptions

Assumption	Low-cost	Best-estimate	High-cost
1. Loan Limit	--	$210	Indexed to inflation for 2006-07 and thereafter
2. Wage Increases	0.7%	1.2%	1.7%
3. Inflation	1.7%	2.7%	3.7%
4. Labour Force Participation Rates – 2028-29 Canada less Québec, Northwest Territories and Nunavut (ages 18-34)	89.6%	83.5%	81.3%
5. Tuition Cost	CPI	CPI + 3.0%	CPI + 6.0%
6. Rate of Borrowing:			
Government cost of borrowing	3.4%	5.4%	7.4%
Student cost of borrowing	6.1%	8.1%	10.1%
7. Interest Relief Utilization	70%	100%	130%
8. Net Defaults	10.2%	14.2%	18.2%

1. Loan Limit

This scenario assumes that the loan limit of $210 per week in 2005-06 and thereafter is indexed to inflation. This scenario shows the effect of many small increases to the limit. Contrary to the best-estimate scenario, the proportion of students at the loan limit will decrease in this scenario, but the amount of total loans issued will increase gradually from 0.8% in 2006-07 to 47% at the end of the projection period.

Chart 9 New Loans Issued ($ million)

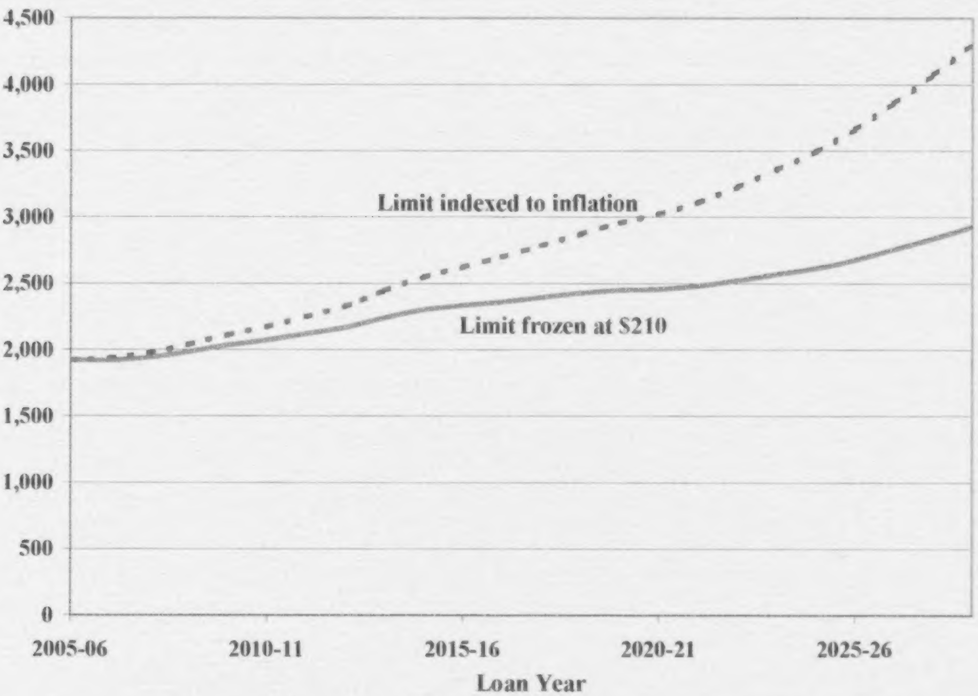


Chart 9 and Table 36 show the impact of gradually increasing the loan limit on loans issued compared to keeping the limit frozen.

Table 36 Impact of Loan Limit on Loans Issued

Loan Year	Increased to $210 in 2005-06			Indexed to Inflation Starting in 2006-07				
	Limit	% of Students at the Limit	Loans Issued Total	Limit	% of Students at the Limit	Loans Issued Total	Loans Issued Increase Over Frozen	
	($)		($ million)	($)		($ million)	($ million)	(%)
2003-04	165	51.2	1,648	165	51.2	1,648	-	-
2004-05	165	52.6	1,666	165	52.6	1,666	-	-
2005-06	210	33.6	1,920	210	33.6	1,920	0	0
2010-11	210	40.6	2,073	233	30.0	2,174	101	5
2015-16	210	51.9	2,333	264	28.9	2,622	289	12
2020-21	210	63.0	2,457	302	28.4	3,022	565	23
2025-26	210	72.4	2,678	345	29.2	3,663	985	37
2028-29	210	77.4	2,929	373	31.3	4,307	1,378	47

2. Wage Increases

Wage increases affect the CSLP by increasing the resources of a student determined in the needs analysis process. This, in turn, reduces the needs of a student, which can reduce a student's loan availability. However, there is also an increase in the administration expenses because these are linked to salary increases.

The real-wage differential is assumed to increase uniformly from its initial to its ultimate level. An ultimate real-wage differential of 1.2% has been assumed in years 2012-13 and thereafter for the best-estimate projections. Combined with the best-estimate inflation assumption of 2.7%, it results in assumed nominal annual increases in wages of 3.9% in 2015-16 and thereafter.

For the low-cost scenario, the assumed real-wage differential is reduced by 0.5%. This results in an ultimate level of 0.7% in 2015-16.

For the high-cost scenario, the assumed real-wage differential is increased by 0.5%. This results in an ultimate level of 1.7% in 2015-16. This sensitivity test has little impact on the net cost of the Program. For an increase of 0.5% in wages, the portfolio decreases but the administration cost increases.

3. Inflation

An ultimate annual rate of inflation of 2.7% has been assumed for the best-estimate projections. The rate of inflation is assumed to be 1.7% in 2003-04 and 2.0% in 2004-05 to 2007-08. It is then assumed to increase uniformly from 2.0% in 2007-08 to its ultimate level of 2.7% in 2015-16. The inflation rate affects the growth of a student's expenses, the growth of Program expenditures, and, indirectly, the resources. It also indirectly affects the Government's cost of borrowing as well as the repayment rate charged to the student.

For the low-cost scenario, the annual rate of inflation is assumed to decrease by 1.0%. This reduces the long-term rate of inflation to 1.7% in 2015-16. This level of inflation is comparable to that of the 1960s and 1990s.

For the high-cost scenario, the annual rate of inflation is assumed to increase by 1.0%. This increases the long-term rate of inflation to 3.7% in 2015-16. This level of inflation is comparable to long-term historical averages.

4. Labour Force Participation Rates

Labour force participation rates are used to determine the population enrolled full-time in post-secondary institutions. A higher participation rate means that fewer people will be available to attend post-secondary institutions, therefore decreasing enrolment. Similarly, a lower participation rate increases enrolment. During the next nine years, it is assumed that the overall labour force participation rate will remain relatively stable for youths (ages 18 to 34), averaging 80.0%. For 2012 to 2028, it is assumed that participation rates will increase overall to 83.5% to compensate for the labour shortage.

For the low-cost scenario, participation rates are assumed to reach their highest historical level of 89.6% by 2028-29. In this scenario, a higher increase in the participation rates is used compared to the base scenario because the labour shortage is more pronounced.

For the high-cost scenario, participation rates are assumed to reach only 81.3% by 2028-29. In this scenario, a lower increase in the participation rates is used compared to the base scenario because the labour shortage is not as severe.

5. Tuition Cost

The long-term estimate of tuition increases is based on past increases of tuition relative to the CPI. Over the last 26 years, yearly tuition increases have, on average, corresponded to increases in the CPI plus 3.0%. Since budgetary pressures are anticipated in the future, given the aging of the population, CPI plus 3.0% was used as the ultimate growth rate.

For the low-cost scenario, the ultimate tuition increase is expected to correspond only to increases in the CPI. This result is more in line with increases of other goods and services. This also means that the Government's funding for education will be more in line with inflation.

For the high-cost scenario, the tuition increase is expected to correspond to increases in the CPI plus 6.0%. The aging of the population could cause significant budget pressures, which could reduce funding in key areas such as post-secondary education.

6. Rate of Borrowing

Changes in the real rate of borrowing involve fluctuations in the interest rate not caused by inflation. This rate is related to the Government cost of borrowing, which has an impact on the cost of the interest subsidy for students in school and the cost of providing interest relief for students in need. In addition to the effect on the Government cost of borrowing, this sensitivity test also affects the students' real rate of borrowing. This rate has been historically very volatile. As a result, greater emphasis should be placed on assessing the sensitivity of this assumption. The low-cost scenario reduces the rate by 2.0% and the high-cost scenario increases it by 2.0%. Each of these scenarios is plausible based on the volatility of past experience.

7. Interest Relief Utilization

In 1998, the interest relief program was extended from a maximum of 30 months to a maximum of 54 months. As a result, experience based on the use of this extended benefit is limited. Greater emphasis should be placed on assessing the sensitivity of the interest relief utilization rate based on this limited experience.

The low-cost scenario reduces the utilization rate of interest relief by 30%.

The high-cost scenario increases the utilization rate of interest relief by 30%. Better communication to students is assumed to increase the awareness of the existence of this relatively new extended interest relief benefit, which will increase the utilization rate of interest relief.

8. Net Defaults

The net default rate of student loans is a major component of the Government's cost of being involved in the Program. The net default rate on loans consolidated is 14.2%, which corresponds to a provision rate of 14.6% on new loans issued. This rate is closely linked with the employment environment for new graduates since that environment affects the ability of students to repay their loans.

In the low-cost scenario, the gross default rate is reduced by 10 basic percentage points to 25.4% and the recovery rate remains unchanged at 60%. Subsequently, the net default rate is 10.2%, with a corresponding provision rate of 10.6% of new loans issued. An assumed enhanced economic environment in the future will reduce the default rate. Potential better communication with students could also serve to reduce this rate.

In the high-cost scenario, the gross default rate is increased by 10 basic percentage points to 45.4% and the recovery rate remains unchanged at 60%. Subsequently, the net default rate is

18.2%, with a corresponding provision rate of 18.6% of new loans issued. The economic environment is assumed to be worse in this scenario with a higher unemployment rate for students.

Table 37 Sensitivity Tests Results for Loan Year 2028-29

Assumptions	Scenario	Loans Issued	Increase	Average Growth Rate	Portfolio July	Increase	Net Cost	Increase
		($ million)	%	%	($ million)	%	($ million)	%
Base scenario	Best-estimate	2,929	-	2.3	21,748	-	1,390	-
Sensitivity tests								
1 - Increase limit to $210 in 2005-06, and indexed to inflation thereafter	High-cost	4,307	47.0	3.9	29,171	34.1	1,773	27.6
2 - Wage differential -0.5%	Low-cost	2,999	2.4	2.4	22,187	2.0	1,366	-1.7
2 - Wage differential +0.5%	High-cost	2,895	-1.2	2.3	21,590	-0.7	1,395	0.3
3 - Inflation -1%	Low-cost	2,674	-8.7	2.0	20,152	-7.3	1,144	-17.7
3 - Inflation +1%	High-cost	3,227	10.2	2.7	23,813	9.5	1,699	22.2
4 - High labour force participation	Low-cost	2,027	-30.8	0.8	16,476	-24.2	1,136	-18.3
4 - Low labour force participation	High-cost	3,267	11.5	2.8	24,124	10.9	1,487	7.0
5 - Tuition: CPI	Low-cost	2,374	-19.0	1.5	18,337	-15.7	1,234	-11.2
5 - Tuition: CPI +6%	High-cost	3,565	21.7	3.1	25,531	17.4	1,572	13.1
6 - Interest rate -2%	Low-cost	2,929	-	2.3	21,321	-2.0	1,186	-14.7
6 - Interest rate +2%	High-cost	2,929	-	2.3	22,122	1.7	1,598	14.9
7 - Interest relief utilization 70%	Low-cost	2,929	-	2.3	21,474	-1.3	1,356	-2.4
7 - Interest relief utilization 130%	High-cost	2,929	-	2.3	21,966	1.0	1,425	2.6
8 - Net default rate 10.2%	Low-cost	2,929	-	2.3	21,577	-0.8	1,169	-15.9
8 - Net default rate 18.2%	High-cost	2,929	-	2.3	21,916	0.8	1,611	15.9

Appendix 6 – Acknowledgements

We would like to thank the staff of the Director General Office, Canada Student Loans Program of the Department of Human Resources and Skills Development that provided the relevant data used in this report. Without the Group's useful assistance, we would not have been able to produce this report.

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